



# Search Report

## EIC 1700

STIC Database Tracking Number: 264606

To: MICHAEL BERNSHTEYN

Location: REM-10D25

Art Unit: 1796

Monday, July 14, 2008

Case Serial Number: 10/542019

From: MEI HUANG

Location: EIC1700

REM-4B31

Phone: (571)272-3952

mei.huang@uspto.gov

### Search Notes

Examiner BERNSHTEYN:

Please feel free to contact me if you have any questions or if you would like to refine the search query. Thank you for using STIC services!

Regards,  
Mei



JUN 26 RECD

Pat. & T.M. Office

Access DB# 264606

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: MICHAEL BERNSTEIN Examiner #: 81515 Date: 06/25/06  
Art Unit: 1796 Phone Number 30 571-272-2411 Serial Number: 10/542,619  
Mail Box and Bldg/Room Location: Room 10D25 Results Format Preferred: (circle) PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Crosslinked polyvinyl acetals

Inventors (please provide full names): Bernd Papentzhs, Martin Steuer,  
Matthias Gutweller

Earliest Priority Filing Date: 01/09/2003

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

*Please, try to find a polymer (A1) and (A2) according with all limitations of claims 1-12.*

*Thank you*

*M. Bernstein*

*Please, pay attention to the Priority Date!*

Searcher: mh NA Sequence (#) \_\_\_\_\_ STN \_\_\_\_\_  
Searcher Phone #: \_\_\_\_\_ AA Sequence (#) \_\_\_\_\_ Dialog \_\_\_\_\_  
Searcher Location: \_\_\_\_\_ Structure (#) \_\_\_\_\_ Questel/Orbit \_\_\_\_\_  
Date Searcher Picked Up: \_\_\_\_\_ Bibliographic \_\_\_\_\_ Dr.Link \_\_\_\_\_  
Date Completed: 7/14/08 Litigation \_\_\_\_\_ Lexis/Nexis \_\_\_\_\_  
Searcher Prep & Review Time: \_\_\_\_\_ Fulltext \_\_\_\_\_ Sequence Systems \_\_\_\_\_  
Clerical Prep Time: \_\_\_\_\_ Patent Family \_\_\_\_\_ WWW/Internet \_\_\_\_\_  
Online Time: \_\_\_\_\_ Other \_\_\_\_\_ Other (specify) \_\_\_\_\_

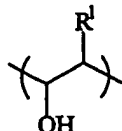
PTO-1590 (8-01)

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) A method for the manufacture of cross-linked polyvinylacetals, in which a polymer (A1) which contains in relation to its total weight

- (a) 1.0 to 99.9 wt% structural units of formula (I)

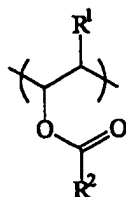


U<sub>b</sub>

(1)

where R¹ represents hydrogen or methyl

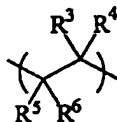
- (b) 0 to 99.0 wt% structural units of formula (2)



(2)

wherein R² represents hydrogen or an alkyl group with 1 to 6 carbon atoms,

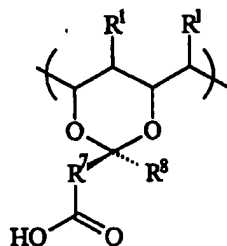
- (c) 0 to 70.0 wt% of structural units of formula (3)



(3)

wherein R³, R⁴, R⁵ and R⁶, are in each case groups independent of each other with a molecular weight in the range from 1 to 500 g/mol,

- (d) 0.00001 to 30.0 wt% structural units of formula (4a)



(4a)

L37-38

0

wherein R⁷ is a linkage, an alkylene group with 1 to 10 carbon atoms or an if necessary

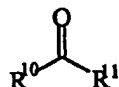
substituted arylene group with 6 to 12 carbon atoms and  $R^8$  is hydrogen, COOH, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms, wherein one in any sequence,

- (i) reacts polymer (A1) with at least one polyaldehyde of formula (5),  
 $R^9(CHO)_n$  (5)  
 wherein  $R^9$  represents a linkage or a group having 1 to 40 carbon atoms and n is a whole number greater than 2

and

- (ii) groups of formula (1) and formula (4a) at least partially esterified with each other,

2. (Original) The method according to Claim 1, characterized in that at any point in time at least one compound of formula (6) is added,

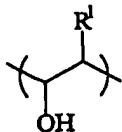


(6)

wherein  $R^{10}$  and  $R^{11}$ , are hydrogen, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms, in each case independent of each other.

3. (Currently Amended) The method according to Claim 1 ~~and/or 2~~, characterized in that a polymer (A1) with  $R^8$  = hydrogen is employed.
4. (Currently Amended) The method according to claim 1 ~~at least one of the preceding Claims~~, characterized in that a polymer (A1) is employed, in which  $R^7$  is a linkage or an alkylene group with 1 to 4 carbon atoms.
5. (Original) A method for the manufacture of cross-linked polyvinylacetals, in which a polymer (A2) is cross-linked, which in relation to its total weight contains

- (a) 1.0 to 99.9 wt% structural units of formula (1)

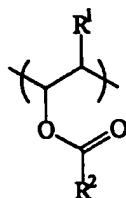


U<sub>6</sub>

(1)

wherein  $R^1$  represents hydrogen or methyl

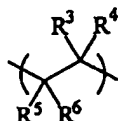
- (b) 0 to 99.0 wt% structural units of formula (2)



(2)

wherein R<sup>2</sup> represents hydrogen or an alkyl group with 1 to 6 carbon atoms,

- (c) 0 to 70.0 wt% of structural units of formula (3)

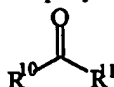


(3)

wherein R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup>, are in each case groups independent of each other with a molecular weight in the range from 1 to 500 g/mol,

characterized in that

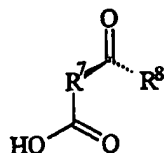
- (i) the polymer (A2) reacts with at least one compound of formula (6)



(6)

wherein R<sup>10</sup> and R<sup>11</sup>, in each case independent of each other, are hydrogen, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms.

- (ii) at least one compound of formula (4b) is added



(4b)

U54

wherein R<sup>7</sup> is a linkage, an alkylene group with 1 to 10 carbon atoms or an if necessary substituted arylene group with 6 to 12 carbon atoms and R<sup>8</sup> is hydrogen, COOH, an alkyl group with 1 to 10 carbon atoms or an if necessary substituted aryl group with 6 to 12 carbon atoms,

- (iii) a polyaldehyde added of formula (5),



(5)

L27

wherein R<sup>9</sup> is a linkage or a group having 1 to 40 carbon atoms and n is a whole number greater than 2

and

- (iv) groups of formula (1) and derived from structural units of formula (4b) at least partially esterified with each other.

6. (Original) The method according to Claim 5, characterized in that at least one compound of formula (4b) with  $R^8$  = hydrogen is employed.
7. (Currently Amended) The method according to Claim 5 ~~and/or 6~~, characterized in that at least one compound of formula (4b) is employed, in which  $R^7$  is a linkage or an alkylene group with 1 to 4 carbon atoms.
8. (Currently Amended) The method according to claim 1 ~~at least one of the preceding Claims~~ characterized in that a compound (5) with  $n = 2$  or 3 is employed.
9. (Currently Amended) The method according to claim 1 ~~at least one of the preceding Claims~~ characterized in that a compound (5) is employed in which  $R^9$  is an aliphatic, cycloaliphatic and/or aromatic group with 1 to 12 carbon atoms.
10. (Original) The method according to Claim 9, characterized in that glutardialdehyde and/or n-nonanedial is utilized as compound (5).
11. (Currently Amended) The method according to claim 1 ~~one of the preceding Claims~~, characterized in that n-butyraldehyde is employed as compound (6).
12. (Currently Amended) The method according to claim 1 ~~one of the preceding Claims~~, characterized in that
  - (1) 95.00 to 99.99 parts by weight at least of one compound (6)
  - (2) 0.01 to 5.00 parts by weight at least of a polyaldehyde (5) is added, wherein the parts by weight given is made up to 100.00 parts by weight.
13. (Currently Amended) The method according to claim 1 ~~at least one of the preceding Claims~~, characterized in that, the esterification (ii) or (iv), is if necessary carried out in presence of at least one softener, at bulk temperatures in the range from 80 to 280 °C.
14. (Original) The method according to Claim 13, characterized in that the cross-linking is carried out in an extruder, kneading device or another heatable unit.
15. (Currently Amended) The cross-linked polyvinylacetal obtainable by means of a method in accordance with claim 1 ~~at least one of the preceding Claims~~.

16. (Original) The polyvinylacetal in accordance with Claim 15, characterized in that less than 10.0 wt% of its total content is esterified and non-esterified in relation to the total weight of polyvinylacetal.
17. (Currently Amended) The polyvinylacetal in accordance with Claim 15 ~~and/or 16~~, characterized in that it contains softeners.
18. (Currently Amended) Molding material containing a polyvinylacetal in accordance with claim 15 ~~at least one of Claims 15 through 17~~.
19. (Currently Amended) Film containing a polyvinylacetal in accordance with claim 15 ~~one of Claims 15 through 18~~.
20. (Original) The use of a film in accordance with Claim 19 for the manufacture of laminated safety glasses.
21. (Currently Amended) A coating containing a polyvinylacetal in accordance with claim 15 ~~at least one of Claims 15 through 17~~.
22. (Currently Amended) The use of a polyvinylacetal in accordance with claim 15 ~~at least one of Claims 15 through 17~~ for the manufacture of ionically conductive intermediate layers for electrochromic systems.





# VOLUNTARY SEARCH FEEDBACK

Art Unit \_\_\_\_\_

App./Serial # \_\_\_\_\_

## **Relevant prior art found**

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest
- ☐ Helped better understand invention
- ☐ Helped better understand state of the art in technology

Types ☐ Foreign Patent(s) ☐ Non-Patent Literature

## **Relevant prior art not found**

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining the patentability or understanding of the invention.

## **COMMENTS**

Questions about the scope or the results of the search?

Contact your EIC searcher or Team Leader.

Please submit completed form to your EIC

## **STIC USE ONLY**

12/07

Today's Date \_\_\_\_\_

Additional Notes if applicable (please indicate all actions including emails, phone calls, and individuals assisting):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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DICTIONARY FILE UPDATES: 13 JUL 2008 HIGHEST RN 1033821-28-1

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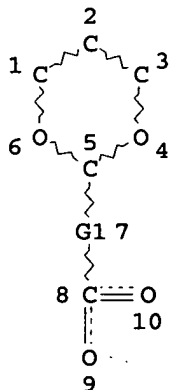
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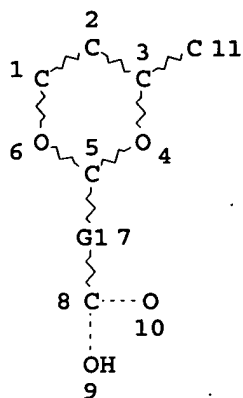
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L29 STR



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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
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NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE  
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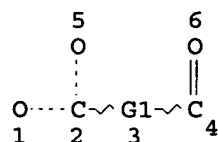
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STEREO ATTRIBUTES: NONE  
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100.0% PROCESSED 49 ITERATIONS  
 SEARCH TIME: 00.00.01

28 ANSWERS

=> d que stat 151  
 L42 STR



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 DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE  
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 L51 151466 SEA FILE=REGISTRY SSS FUL L42 NOT L49

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 SEARCH TIME: 00.00.03

151466 ANSWERS

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SEL RN

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L3 1 SEA ABB=ON PLU=ON 9002-89-5/RN

D SCA

E "(C3H6O)X"/MF

L4 29 SEA ABB=ON PLU=ON "(C3H6O)X"/MF

D SCA L3

D SCA

L5 1 SEA ABB=ON PLU=ON L4 AND 1-PROPEN-1-OL, HOMOPOLYMER/CN

L6 2 SEA ABB=ON PLU=ON L3 OR L5

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L7 STR

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L9 STR L7

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L12 1 SEA ABB=ON PLU=ON PROPANEDIAL/CN

D SCA

L13 1 SEA ABB=ON PLU=ON 83513-30-8/RN

D SCA

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E BUTENEDIAL/CN

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D SCA

E BUTANEDIAL/CN

L16 1 SEA ABB=ON PLU=ON BUTANEDIAL/CN

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D SCA

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D SCA

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E HEPTADECANEDIAL/CN

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L27 STR

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L31 1411 SEA SSS FUL L29  
SAV L31 BER0194A/A

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L32 STR L29

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L34 28 SEA SUB=L31 SSS FUL L32  
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D SCA  
L35 0 SEA ABB=ON PLU=ON L34 AND RC=1  
L36 10 SEA ABB=ON PLU=ON L34 AND NR=1  
D SCA  
L37 0 SEA ABB=ON PLU=ON L36 AND PMS/CI

FILE 'HCAPLUS' ENTERED AT 13:53:05 ON 14 JUL 2008

L38 74906 SEA ABB=ON PLU=ON L6  
L39 QUE ABB=ON PLU=ON POLYVINYLA LCOHOL OR POLYVINYLA LCOH  
OL OR POLY(W)VINYLA LCOHOL# OR PVA OR PVOH OR PVAL  
L40 6 SEA ABB=ON PLU=ON L36  
L41 0 SEA ABB=ON PLU=ON (L38 OR L39) AND L40

FILE 'LREGISTRY' ENTERED AT 14:02:23 ON 14 JUL 2008  
L42 STR

FILE 'REGISTRY' ENTERED AT 14:04:20 ON 14 JUL 2008

L43 50 SEA SSS SAM L42  
L44 SCR 2043

FILE 'REGISTRY' ENTERED AT 14:09:28 ON 14 JUL 2008

L45 SCR 1840  
L46 50 SEA SSS SAM L42 NOT L45  
L47 SCR 1840 OR 2040  
L48 50 SEA SSS SAM L42 NOT L47  
L49 SCR 1840 OR 2040 OR 2016 OR 2026  
L50 50 SEA SSS SAM L42 NOT L49  
L51 151466 SEA SSS FUL L42 NOT L49  
SAV TEMP BER0194B/A L51

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L52 163595 SEA ABB=ON PLU=ON L51  
DEL BER0194B/A  
L53 1 SEA ABB=ON PLU=ON 2004:587942/AN

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L54 2 SEA ABB=ON PLU=ON (111-30-8/BI OR 51651-40-2/BI)  
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L16 OR L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR  
L24 OR L25 OR L26) OR L54

FILE 'HCAPLUS' ENTERED AT 15:06:40 ON 14 JUL 2008

L56 32728 SEA ABB=ON PLU=ON L55  
L57 1380 SEA ABB=ON PLU=ON (L38 OR L39) AND L56  
L58 58 SEA ABB=ON PLU=ON L57 AND L52  
L59 44 SEA ABB=ON PLU=ON L58 AND (PY<=2003 OR PRY<=2003 OR  
AY<=2003)  
L60 QUE ABB=ON PLU=ON ?ALDEHYDE?  
L61 QUE ABB=ON PLU=ON ?KETONE?  
L62 26 SEA ABB=ON PLU=ON L59 AND (L60 OR L61)  
L63 QUE ABB=ON PLU=ON (CROSSLINK? OR CROSS(W)LINK? OR  
CURING OR NETWORK?) (2A) (AGENT? OR ADDITIVE? OR COMPOUND?)  
OR LINKER? OR CROSSLINKER?  
L64 14 SEA ABB=ON PLU=ON (L59 OR L62) AND L63  
L65 9 SEA ABB=ON PLU=ON L62 AND L64  
L66 5568 SEA ABB=ON PLU=ON L55(L) RACT/RL  
L67 1418 SEA ABB=ON PLU=ON L55(L) L63  
L68 412 SEA ABB=ON PLU=ON L66 AND L67  
L69 QUE ABB=ON PLU=ON POLYVINYL(W) ACETAL? OR POLY(W) VINYL(W)  
) ACETAL? OR POLYVINYLACETAL?  
L70 6 SEA ABB=ON PLU=ON L68 AND L69  
L71 1 SEA ABB=ON PLU=ON L59 AND L69  
D SCA  
L72 9 SEA ABB=ON PLU=ON L65 NOT L71  
L73 5 SEA ABB=ON PLU=ON L64 NOT (L71 OR L72)  
L74 16 SEA ABB=ON PLU=ON L62 NOT (L71 OR L72 OR L73)  
L75 13 SEA ABB=ON PLU=ON L59 NOT (L71 OR L72 OR L73 OR L74)  
L76 20 SEA ABB=ON PLU=ON L34  
L77 0 SEA ABB=ON PLU=ON (L38 OR L39) AND L76

=> fil hcap

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FILE LAST UPDATED: 13 Jul 2008 (20080713/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l71 ibib abs hitstr hitind

L71 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:836522 HCAPLUS

DOCUMENT NUMBER: 139:354456

TITLE: Compositions and methods for delivery of drugs and nucleic acids using pH sensitive molecules  
INVENTOR(S): Monahan, Sean D.; Wolff, Jon A.; Hagstrom, James E.; Budker, Vladimir G.; Rozema, David B.

PATENT ASSIGNEE(S): Mirus Bio Corporation, USA

SOURCE: U.S. Pat. Appl. Publ., 47 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030199090	A1	20031023	US 2002-83456	20020226
US 7208314	B2	20070424	US 2002-83456	20020226

PRIORITY APPLN. INFO.: <--

AB A system relating to the delivery of desired compds. (e.g., drugs and nucleic acids) into cells using pH-sensitive delivery systems is presented. The system provides compns. and methods for the delivery and release of a compound to a cell. Transfection of Hela cells with histone H1 and the membrane active peptide melittin, dimethylmaleic-modified melittin or succinic anhydride-modified melittin was carried out. The 2,3-dimethylmaleic modification of melittin allowed the peptide to complex with the cationic protein

histone H1 and then cleave to release and reactivate in the lowered pH encountered by the complex in the cellular endosomal compartment. This caused a significant increase in luciferase expression over either unmodified melittin peptide or melittin peptide modified with succinic anhydride which allows complexing with histone H1 but does not cleave in lowered pH. Further, hemolytic activity of the transfection compds. was evaluated.

IT 111-30-8, Glutaric dialdehyde 692-29-5, Succinic semialdehyde 24991-23-9

RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses) (comps. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>3</sub>-CHO

& Formula (5)

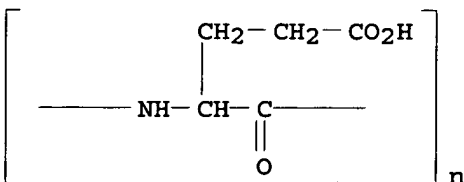
RN 692-29-5 HCAPLUS

CN Butanoic acid, 4-oxo- (CA INDEX NAME)

OHC-CH<sub>2</sub>-CH<sub>2</sub>-CO<sub>2</sub>H

RN 24991-23-9 HCAPLUS

CN Poly[imino[(1S)-1-(2-carboxyethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



IT 9002-89-5DP, Polyvinyl alcohol, reaction

products with 3-aminopropyltrimethoxysilane 313048-86-1P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);

BIOL (Biological study); PREP (Preparation); USES (Uses)

(comps. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

H<sub>2</sub>C=CH-OH

& Formula  
(1)

RN 313048-86-1 HCAPLUS

Mhuang EIC1700 REM4B31

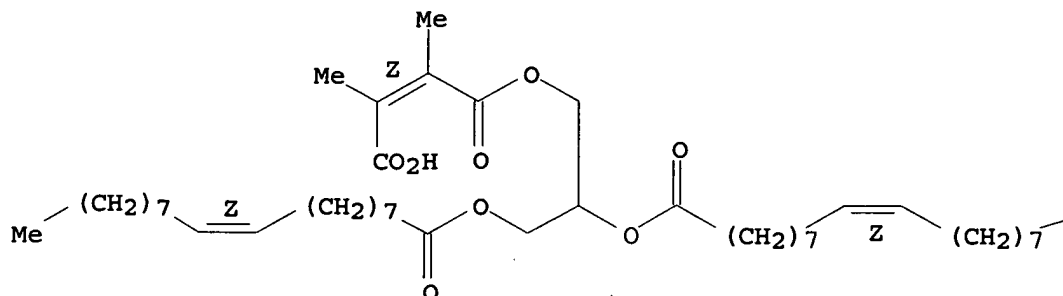
07/14/2008



CN 2-Butenedioic acid, 2,3-dimethyl-, 1-[2,3-bis[[[(9Z)-1-oxo-9-octadecen-1-yl]oxy]propyl] ester, (2Z)- (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



PAGE 1-B

Me

IC ICM C12N015-63

ICS C12N015-85

INCL 435455000

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 1, 3

IT Polyvinyl acetals

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(ketals; compns. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

IT 56-81-5, Glycerol, biological studies 107-15-3, Ethylene diamine,

biological studies 108-30-5, Succinic anhydride, biological

studies 111-30-8, Glutaric dialdehyde 112-77-6, Oleoyl

chloride 112-90-3, Oleylamine 515-94-6, 2,3,-Diaminopropionic

acid 563-96-2, Glyoxylic acid monohydrate 616-30-8,

3-Amino-1,2-propanediol 692-29-5, Succinic semialdehyde

1009-61-6, 1,4-Diacetylbenzene 2163-48-6, Diethylpropylmalonate

3699-66-9, Triethyl-2-phosphonopropionate 7209-38-3,

1,4-Bis(3-aminopropyl)piperazine 10389-65-8 13192-04-6,

Dimethyl-2-oxoglutarate 13726-67-5, N-(tert-Butoxycarbonyl)-L-

aspartic acid 24991-23-9 25513-46-6, Poly-L-glutamic

acid 29022-11-5, Fmoc-glycine 60129-38-6 289888-16-0

313048-80-5

RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL

(Biological study); RACT (Reactant or reagent); USES (Uses)

(compns. and methods for delivery of drugs and nucleic acids using pH sensitive mols.)

IT 487-66-1P 9002-89-5DP, Polyvinyl alcohol

, reaction products with 3-aminopropyltrimethoxysilane

9003-05-8DP, Acrylamide homopolymer, reaction products with pAcKL3  
 13822-56-5DP, 3-Aminopropyltrimethoxysilane, reaction products  
 poly-DL-serine 25104-18-1DP, Poly-L-Lysine, succinylated  
 29056-54-0DP, Poly-DL-serine, reaction products with  
 3-Aminopropyltrimethoxysilane 35141-36-7DP, N-  
 Trimethoxysilylpropyl-N,N,N-trimethylammonium chloride, reaction  
 products with polyserine 37231-28-0DP, Melittin, reaction products  
 with 2,3-Dimethylmaleic anhydride 38000-06-5DP, Poly-L-lysine,  
 sru, succinylated 58068-97-6DP, N-[3-(Triethoxysilyl)propyl]4,5-  
 dihydroimidazole, reaction products with polyserine 138134-74-4P  
 163222-85-3P 289888-17-1P, MC 151 289888-18-2P 313048-70-3P  
 313048-78-1P, MC 303 313048-86-1P 313049-16-0P, MC 216  
 313049-22-8P, MC 211 313049-25-1P, MC 225 313049-26-2P, MC 372  
 313049-27-3P, MC 373 313049-28-4P 313049-29-5P 313049-34-2P  
 313049-35-3P 313049-45-5P, MC 217 313050-03-2P 313050-61-2P  
 313050-83-8P, MC 228 313050-85-0P, MC 208 313050-87-2P, MC 218  
 313050-91-8P, MC 140 313050-96-3P, MC 229 313051-30-8P, MC 312  
 313056-34-7P 313058-16-1P 313058-17-2P 313271-83-9DP, reaction  
 products with polylysine 371246-56-9P 616894-30-5DP, reaction  
 products with 2,3-dimethylmaleimide 618106-39-1P, MC 222  
 618106-46-0P, MC 369 618107-18-9P, MC 221 618114-23-1P, MC 196  
 618114-24-2P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);  
 BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (comps. and methods for delivery of drugs and nucleic acids  
 using pH sensitive mols.)

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

=> d 172 ibib abs hitstr hitind 1-9

L72 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:903915 HCAPLUS

DOCUMENT NUMBER: 141:386449

TITLE: Heat-sensitive printing paper with good water  
 and solvent resistances, writability, and  
 printability

INVENTOR(S): Kano, Satoshi

PATENT ASSIGNEE(S): Mitsubishi Paper Mills, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2004299380	A	20041028	JP 2003-353144	200310 14
			<--	
WO 2005035259	A1	20050421	WO 2004-JP13194	200409 03
			<--	

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,

CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR,  
 KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
 MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,  
 SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,  
 VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,  
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,  
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,  
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
 GW, ML, MR, NE, SN, TD, TG  
 DE 112004000801 T5 20060831 DE 2004-112004000801

200409  
03

US 20070026259 A1 20070201 US 2006-555082

200605  
12

PRIORITY APPLN. INFO.:

JP 2003-73995

A

200303  
18

JP 2003-353144

A

200310  
14

WO 2004-JP13194

W

200409  
03

AB The heat-sensitive printing paper comprises (A) a support having thereon (B) a heat-sensitive color-forming layer which form colors upon heat and (C) a protection layer containing **poly(vinyl alc.)**, chitosan, **crosslinking agents**, and colloidal SiO<sub>2</sub>, preferably cationic colloidal SiO<sub>2</sub>, as pigments. Preferably, the **crosslinking agents** comprise **aldehydes**, epichlorohydrin residue-containing compds., and/or isocyanates. Preferably, the **poly(vinyl alc.)** contain  $\geq 1$  **poly(vinyl alcs.)** (PVA) selected from unmodified PVA with saponification degree  $\geq 95\%$ , silanol-modified PVA, epoxy-modified PVA, diacetone-modified PVA, and acetoacetyl-modified PVA. Preferably, the protection layer further contain nonionic or cationic water-dispersing binders.

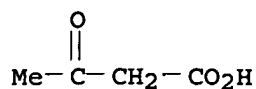
IT 39290-68-1  
 RL: TEM (Technical or engineered material use); USES (Uses) (Z 200; heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4  
 CMF C4 H6 O3

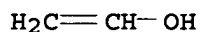


CM 2

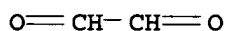
CRN 9002-89-5  
 CMF (C2 H4 O)x  
 CCI PMS

CM 3

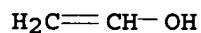
CRN 557-75-5  
 CMF C2 H4 O



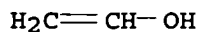
IT 107-22-2, Glyoxal 9002-89-5, PVA 117  
 9002-89-5D, Poly(vinyl alcohol  
 ), modified with silanol, epoxy, diacetone, or acetoacetyl  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (heat-sensitive printing paper with water- and solvent-resistant  
 protection layer containing)  
 RN 107-22-2 HCAPLUS  
 CN Ethanediol (CA INDEX NAME)



RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (CA INDEX NAME)  
 CM 1  
 CRN 557-75-5  
 CMF C2 H4 O



RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (CA INDEX NAME)  
 CM 1  
 CRN 557-75-5  
 CMF C2 H4 O



IC ICM B41M005-26

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

ST heat sensitive printing paper PVA protection layer;  
chitosan heat sensitive printing paper; colloidal silica pigment  
heat sensitive printing paper; **crosslinking agent**  
heat sensitive printing paper

IT 39290-68-1  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Z 200; heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

IT 822-06-0, Hexamethylene diisocyanate 34937-45-6,  
Acrylamide-epichlorohydrin copolymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(**crosslinking agents**; heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

IT 107-22-2, Glyoxal 9002-89-5, PVA 117  
9002-89-5D, Poly(vinyl alcohol), modified with silanol, epoxy, diacetone, or acetoacetyl  
9012-76-4, OTS 2 10043-35-3, Boric acid, uses 115471-08-4, Poval  
R 1130 130960-31-5, PVA 217 188653-12-5, Snowtex AK-YL  
262603-63-4, Denka Poval W 100 781626-26-4, D 1700 781626-44-6,  
Vinyblan 2685 854021-65-1, Snowtex AK  
RL: TEM (Technical or engineered material use); USES (Uses)  
(heat-sensitive printing paper with water- and solvent-resistant protection layer containing)

L72 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:855982 HCAPLUS

DOCUMENT NUMBER: 139:338810

TITLE: Hydrogels having enhanced elasticity and mechanical strength properties

INVENTOR(S): Omidian, Hossein; Qiu, Yong; Yang, Shicheng;  
Kim, Dukjoon; Park, Haesun; Park, Kinam

PATENT ASSIGNEE(S): Purdue Research Foundation, USA

SOURCE: PCT Int. Appl., 91 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003089506	A1	20031030	WO 2003-US12340	20030422

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003234159 A1 20031103 AU 2003-234159 200304  
22  
US 20030232895 A1 20031218 US 2003-420323 200304  
22  
US 6960617 B2 20051101 200304  
22  
PRIORITY APPLN. INFO.: US 2002-374388P P 200204  
22  
WO 2003-US12340 W 200304  
22

AB Hydrogels having improved elasticity and mech. strength properties are obtained by subjecting a hydrogel formulation containing a strengthening agent to chemical or phys. crosslinking conditions subsequent to initial gel formation. Superporous hydrogels having improved elasticity and mech. strength properties are similarly obtained whenever the hydrogel formulation is provided with a foaming agent. Interpenetrating networks of polymer chains comprised of primary polymer(s) and strengthening polymer(s) are thereby formed. The primary polymer affords capillary-based water sorption properties while the strengthening polymer imparts significantly enhanced mech. strength and elasticity to the hydrogel or superporous hydrogel. Suitable strengthening agents can be natural or synthetic polymers, polyelectrolytes, or neutral, hydrophilic polymers. Thus, 50% acrylamide solution 500, 1.0% N,N-methylenebisacrylamide solution 100, 10.0% Pluronic F 127 solution 50, glacial acetic acid 50, and 2% aqueous sodium alginate solution 1500  $\mu$ l were mixed, 50  $\mu$ l 20% ammonium persulfate solution and 50  $\mu$ l 20% N,N,N',N'-tetramethylenediamine solution was added therein, 30 mg sodium bicarbonate was added therein and reacted, poured into an 30% aqueous calcium chloride solution, washed, and dried to give a porous hydrogel with good stretching, compression, and bending stress resistance.

IT 111-30-8, Glutaraldehyde  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinker; preparation of hydrogels having enhanced elasticity and mech. strength properties)  
RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)

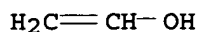
OHC-(CH<sub>2</sub>)<sub>3</sub>-CHO

IT 9002-89-5, Polyvinyl alcohol  
24991-23-9 26063-13-8, Poly(aspartic acid)  
31851-29-3  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(interpenetrating networks; preparation of hydrogels having enhanced elasticity and mech. strength properties)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

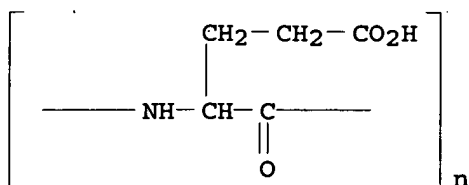
CRN 557-75-5

CMF C2 H4 O



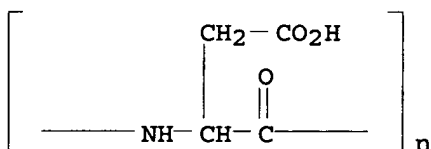
RN 24991-23-9 HCAPLUS

CN Poly[imino[(1S)-1-(2-carboxyethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



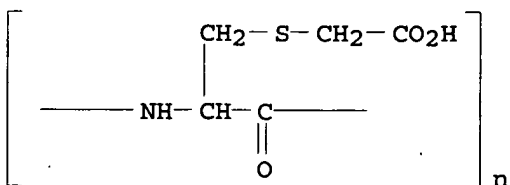
RN 26063-13-8 HCAPLUS

CN Poly[imino[(1S)-1-(carboxymethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



RN 31851-29-3 HCAPLUS

CN Poly[imino[(1R)-1-[[[(carboxymethyl)thio]methyl]-2-oxo-1,2-ethanediyl]] (9CI) (CA INDEX NAME)



IC ICM C08J009-40

ICS C08G063-48; C08F116-06; C08F016-06; C08F216-06

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 33, 63

IT 56-81-5, Glycerol, uses 111-30-8, Glutaraldehyde

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinker; preparation of hydrogels having enhanced elasticity and mech. strength properties)

IT 154-23-4, Catechin 327-97-9, Chlorogenic acid 490-46-0,

Epicatechin 497-76-7, Arbutin 1398-61-4, Chitin 9000-69-5,

Pectin 9002-89-5, Polyvinyl alcohol  
 9002-98-6 9003-01-4, Polyacrylic acid 9003-05-8, Polyacrylamide  
 9003-39-8, Polyvinyl pyrrolidone 9004-32-4, Carboxymethyl  
 cellulose 9004-34-6, Cellulose, uses 9004-54-0, Dextran, uses  
 9004-61-9, Hyaluronic acid 9005-25-8, Starch, uses 9005-32-7,  
 Alginic acid 9005-38-3, Algin 9005-53-2, Lignin, uses  
 9012-76-4, Chitosan 9042-14-2, Dextran sulfate 9063-38-1, Sodium  
 starch glycolate 11138-66-2, Xanthan 12619-70-4, Cyclodextrin  
 24937-47-1, Poly(L-arginine) 24991-23-9 25068-14-8,  
 Polyacrolein 25213-33-6, Polyproline 25322-64-9 25322-68-3,  
 Polyethylene glycol 25987-30-8, Acrylic acid-acrylamide copolymer  
 sodium salt 26062-79-3, Diallyldimethylammonium chloride  
 homopolymer 26063-13-8, Poly(aspartic acid) 26521-10-8,  
 Polysarcosine 31851-29-3 38000-06-5, Poly(L-lysine)  
 50851-57-5 59680-46-5, Kymene 557H 63183-41-5, Sodium glycine  
 carbonate 142804-65-7, Gellan 187606-35-5, 2-Hydroxyethyl  
 acrylate-polyethylene glycol diacrylate copolymer  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in  
 formulation); PYP (Physical process); TEM (Technical or engineered  
 material use); PROC (Process); USES (Uses)  
 (interpenetrating networks; preparation of hydrogels having enhanced  
 elasticity and mech. strength properties)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR  
 THIS RECORD. ALL CITATIONS AVAILABLE IN  
 THE RE FORMAT

L72 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:470700 HCAPLUS

DOCUMENT NUMBER: 139:37686

TITLE: Two-component adhesive compositions with good  
 initial bond strength for wood

INVENTOR(S): Kitamura, Kiyoharu; Shibuya, Mitsuo

PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,  
 Japan; Mitsubishi Chemical Corp.

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003171637	A	20030620	JP 2001-370800	20011205
JP 4112853	B2	20080702	JP 2001-370800	20011205

AB Two-component adhesive compns. comprise (A) aqueous liqs. containing  
 modified vinyl alc. polymers having functional groups reactive  
 toward acetoacetate ester groups and Huggins constant  $\geq 0.5$  and  
 (B) aqueous liqs. containing vinyl alc. polymers having acetoacetate ester  
 groups. Thus, vinyl acetate was copolymd. with N-vinylformamide in  
 MeOH in the presence of AIBN and the resulting copolymer was saponified  
 and hydrolyzed to give vinyl alc.-N-vinylamine copolymer (I; amino



group content 7.6 mol%, residual amide content 0.4 mol%, saponification degree 99.8 mol%, Huggins constant 0.55). An aqueous liquid containing 100 parts aqueous solution containing 10% I and 50 parts CaCO<sub>3</sub> was applied on an adherent surface of a wood piece at 200 g/m<sup>2</sup>. An aqueous solution containing poly(vinyl alc.) acetoacetate

(acetoacetate ester content 2 mol%) was applied on an adherent surface of another wood piece at 200 g/m<sup>2</sup>. The bond strength measured 5 min after 2-min pressing of the 2 wood pieces against each other at 10 kg/cm<sup>2</sup> was 61 kg/cm<sup>2</sup>.

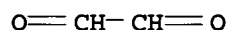
IT 107-22-2, Glyoxal

RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)

(crosslinking agent; two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)

RN 107-22-2 HCAPLUS

CN Ethanedial (CA INDEX NAME)



IT 39290-68-1, Poly(vinyl alcohol)  
) acetoacetate

RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)

(two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)

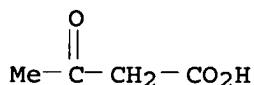
RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

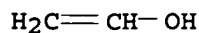
CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O



IC ICM C09J129-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 43

ST vinyl alc polymer adhesive bond strength; wood adhesive modified vinyl alc polymer; amine acetoacetate **polyvinyl alc** adhesive strength; two component adhesive modified **polyvinyl alc**

IT **Aldehydes, uses**  
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (crosslinking agents; two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)

IT **Crosslinking agents**  
 Wood  
 (two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)

IT 107-22-2, Glyoxal 9002-98-6, Polyethylenimine  
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (crosslinking agent; two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)

IT 39290-68-1, Poly(vinyl alcohol)  
 ) acetoacetate  
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (two-component adhesives containing modified vinyl alc. polymers with good initial bond strength for wood)

L72 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:910371 HCAPLUS

DOCUMENT NUMBER: 136:54821

TITLE: Two-component adhesive compositions with high initial cure rate and good processability and their bonding method

INVENTOR(S): Tanimoto, Seiji; Inomata, Naokiyo

PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001348550	A	20011218	JP 2000-169121	20000606

PRIORITY APPLN. INFO.:

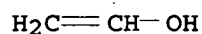
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 JP 2000-169121

20000606

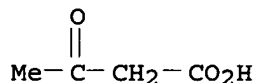
AB The composition comprises first component containing (A) a vinyl alc. polymer having an active hydrogen-containing functional group and (B) imido-containing isobutylene-maleimide polymer, and second component containing a water-soluble aldehyde compound Thus, first component containing amino-modified **polyvinyl alc.** aqueous solution 200, Isobam 304 (isobutylene-maleimide polymer) 100 and P 30

(calcium carbonate) 100 parts and second component containing 15% glyoxal aqueous solution were coated resp. on two beech wood plates, press bonded and cured, showing high adhesion strength.

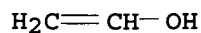
IT 9002-89-5D, Polyvinyl alcohol,  
amino-modified 39290-68-1, Gohsefimer Z 200  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(adhesive compns. containing; two-component adhesive compns. with high initial cure rate and good processability and their bonding method)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)  
  
CM 1  
  
CRN 557-75-5  
CMF C2 H4 O



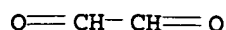
RN 39290-68-1 HCAPLUS  
CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)  
  
CM 1  
  
CRN 541-50-4  
CMF C4 H6 O3



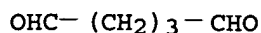
CM 2  
  
CRN 9002-89-5  
CMF (C2 H4 O)x  
CCI PMS  
  
CM 3  
  
CRN 557-75-5  
CMF C2 H4 O



IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agent; two-component adhesive compns. with high initial cure rate and good processability and their bonding method)  
RN 107-22-2 HCAPLUS  
CN Ethanediol (CA INDEX NAME)



RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)



IC ICM C09J129-04  
ICS C09J005-04; C09J123-22; C09J135-00; C09J163-00  
CC 38-3 (Plastics Fabrication and Uses)  
ST polyvinyl alc two component adhesive;  
isobutylene maleimide polymer two component adhesive;  
aldehyde two component adhesive initial curability  
IT Dialdehydes  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agent; two-component adhesive  
comps. with high initial cure rate and good processability and  
their bonding method)  
IT 9002-89-5D, Polyvinyl alcohol,  
amino-modified 39290-68-1, Gohsefimer Z 200 68565-41-3  
98226-17-6, Isobam 304  
RL: POF (Polymer in formulation); TEM (Technical or engineered  
material use); USES (Uses)  
(adhesive comps. containing; two-component adhesive comps. with  
high initial cure rate and good processability and their bonding  
method)  
IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agent; two-component adhesive  
comps. with high initial cure rate and good processability and  
their bonding method)

L72 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2000:464810 HCAPLUS  
DOCUMENT NUMBER: 133:96819  
TITLE: Method for ink-jet printing using ink-hardening  
agent for aqueous ink  
INVENTOR(S): Kovacs, Csaba A.; Kung, Teh-Min; Romano, Charles  
Eugene, Jr.  
PATENT ASSIGNEE(S): Eastman Kodak Co., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
JP 2000190618	A	20000711	JP 1999-354268	199912 14
			<--	
EP 1024021	A2	20000802	EP 1999-204146	199912

06

&lt;--

EP 1024021 A3 20000906  
 EP 1024021 B1 20030723

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
 PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.:

US 1998-216288

A

199812  
 18

&lt;--

AB The method for ink-jet printing includes a recording material having a recording layer, which contains a polymer-dispersing agent and gelatin or an cross-link-able acetoacetylated polyvinyl alc., on a support, an aqueous deprotonated cationic dye ink, which is protonated to form a conjugated cationic dye with N-H group, and an aqueous organic ink-hardening agent for crosslinking the polymer in the ink. The method provides an image of the improved light-, moisture, and scratch-resistance.

IT 39290-68-1, Gohsefimer Z 200

RL: TEM (Technical or engineered material use); USES (Uses)  
 (Gohsefimer Z 200; ink-jet ink)

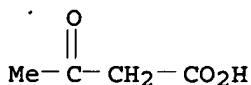
RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

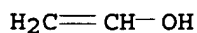
CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O

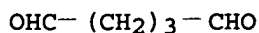


IT 111-30-8, Glutaraldehyde

RL: TEM (Technical or engineered material use); USES (Uses)  
 (ink-hardening agent)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



IC ICM B41M005-00  
ICS B41M005-00; B41J002-01; C09D011-00  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 42  
ST ink jet printing **crosslinking agent**  
IT 39290-68-1, Gohsefimer Z 200  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Gohsefimer Z 200; ink-jet ink)  
IT 50-00-0, **Formaldehyde**, uses 111-30-8,  
**Glutaraldehyde** 3278-22-6, Bis(vinylsulfonylmethane)  
4845-50-5, 2,3-Dihydroxy-1,4-dioxane  
RL: TEM (Technical or engineered material use); USES (Uses)  
(ink-hardening agent)

L72 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:752938 HCAPLUS

DOCUMENT NUMBER: 132:4153

TITLE: Hardener addition to pigmented ink jet inks for  
water-fast images in printing on poly(  
vinyl alcohol) receivers

INVENTOR(S): Erdtmann, David; Romano, Charles E.; Martin,  
Thomas W.; Maskasky, Joe Edward

PATENT ASSIGNEE(S): Eastman Kodak Co., USA

SOURCE: Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

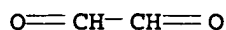
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 959113	A1	19991124	EP 1999-201479	199905 12
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6020398	A	20000201	US 1998-83869	199805 22
<--				
JP 2000001641	A	20000107	JP 1999-141721	199905 21
<--				
PRIORITY APPLN. INFO.:			US 1998-83869	A 199805 22

AB The title hardeners, such as aldehydes and olefins are  
added to pigmented inks. An ink contained pigment black 7, water,  
biocide, and 0.5% bis(vinylsulfonylmethyl)ether.

IT 107-22-2, Glyoxal

RL: MOA (Modifier or additive use); USES (Uses)  
(hardener; hardener addition to pigmented ink jet inks for  
water-fast images in printing on poly(vinylalc.) receivers)

RN 107-22-2 HCAPLUS  
CN Ethanedial (CA INDEX NAME)

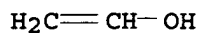


IT 9002-89-5D, Poly(vinylalcohol), acetoacetylated  
39290-68-1, Gohsefimer Z-200  
RL: PEP (Physical, engineering or chemical process); PRP  
(Properties); PROC (Process)  
(receiver sheet; hardener addition to pigmented ink jet inks for  
water-fast images in printing on poly(vinylalc.) receivers)

RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

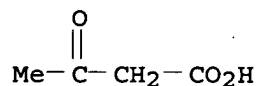
CRN 557-75-5  
CMF C2 H4 O



RN 39290-68-1 HCAPLUS  
CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4  
CMF C4 H6 O3

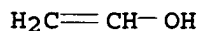


CM 2

CRN 9002-89-5  
CMF (C2 H4 O)x  
CCI PMS

CM 3

CRN 557-75-5  
CMF C2 H4 O



IC ICM C09D011-00  
ICS B41M005-00  
CC 42-12 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 38  
ST pigmented ink printing hardener; aldehyde hardener

printing ink; olefin hardener printing ink

IT **Crosslinking agents**  
 (aldehyde or olefin blocked or unblocked; hardener addition to pigmented ink jet inks for water-fast images in printing on poly(vinylalc.) receivers)

IT 50-00-0, **Formaldehyde**, uses 107-22-2, Glyoxal 3278-22-6, Bis(vinylsulfonyl)methane 4845-50-5, 2,3-Dihydroxy-1,4-dioxane 26750-50-5, Bis(vinylsulfonylmethyl)ether 143749-46-6, Sunrez 700M 251092-26-9, Sequarez 755  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (hardener; hardener addition to pigmented ink jet inks for water-fast images in printing on poly(vinylalc.) receivers)

IT 9002-89-5D, Poly(vinylalcohol), acetoacetylated 39290-68-1, Gohsefimer Z-200  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)  
 (receiver sheet; hardener addition to pigmented ink jet inks for water-fast images in printing on poly(vinylalc.) receivers)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L72 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1991:681582 HCAPLUS  
 DOCUMENT NUMBER: 115:281582  
 ORIGINAL REFERENCE NO.: 115:47845a,47848a  
 TITLE: Adhesive compositions for labels  
 INVENTOR(S): Shiragami, Sadahiko; Miyazaki, Hirotooshi; Maruyama, Hitoshi  
 PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 03131648	A	19910605	JP 1989-269946	19891016

PRIORITY APPLN. INFO.: JP 1989-269946  
 19891016

AB Comps. useful for adhesion of labels with glass bottles contain acetoacetylated poly(vinyl alc.) (I), crosslinking agents, alkaline-soluble compds., and/or alkaline-swellaable compds. Thus, a composition containing 2.5% acetoacetylated I (d.p. 1700) 100, isobutylene-maleic anhydride copolymer (Isobam 10) powders 20, and glyoxal 3 parts had solid content 22.6%, viscosity 20,500 cP at 20°, and good adhesion when used for adhering labels with glass bottles.

IT 39290-68-1  
 RL: USES (Uses)

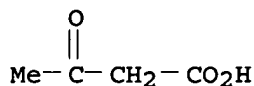


(adhesive compns. containing, for adhesion of labels with glass bottles)

RN 39290-68-1 HCAPLUS  
CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4  
CMF C4 H6 O3

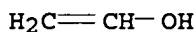


CM 2

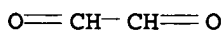
CRN 9002-89-5  
CMF (C2 H4 O)x  
CCI PMS

CM 3

CRN 557-75-5  
CMF C2 H4 O



IT 107-22-2, Glyoxal  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agent, adhesive compns. containing,  
for adhesion of labels with glass bottles)  
RN 107-22-2 HCAPLUS  
CN Ethanedial (CA INDEX NAME)



IC ICM C08L029-02  
ICS C03C027-00; C08G018-62; C08L023-02; C08L029-02; C08L031-04;  
C08L035-00; C08L061-34; C09J123-02; C09J129-02; C09J131-04;  
C09J135-00; C09J161-34; C09J175-04  
CC 38-3 (Plastics Fabrication and Uses)  
ST glass bottle label adhesive; acetoacetylated polyvinyl  
alc adhesive; isobutylene maleic anhydride copolymer  
adhesive  
IT Adhesives  
(acetoacetylated poly(vinyl alc.),  
for labels)  
IT Labels  
(adhesives for, acetoacetylated poly(vinyl  
alc.)-based, for glass bottles)  
IT 1344-28-1, Alumina, uses and miscellaneous 9004-32-4,  
Carboxymethyl cellulose 10043-01-3, Aluminum sulfate 25609-89-6  
39290-68-1 96510-78-0, KI Gel 201 106209-33-0, SMA 1000

110171-93-2, Isobam 10

RL: USES (Uses)

(adhesive compns. containing, for adhesion of labels with glass bottles)

IT 107-22-2, Glyoxal 9011-05-6, Formaldehyde-urea copolymer 9016-87-9, Millionate MR

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinking agent, adhesive compns. containing, for adhesion of labels with glass bottles)

L72 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1987:20929 HCAPLUS

DOCUMENT NUMBER: 106:20929

ORIGINAL REFERENCE NO.: 106:3553a,3556a

TITLE: Aqueous gel compositions as metalworking lubricants

INVENTOR(S): Shimokawa, Wataru; Fukumori, Katuaki

PATENT ASSIGNEE(S): Hoechst Gosei Co., Ltd., Japan

SOURCE: Ger. Offen., 49 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3609928	A1	19861009	DE 1986-3609928	19860324
DE 3609928	C2	19901018		
JP 61220656	A	19860930	JP 1985-62690	19850327
JP 63063230	B	19881206		
JP 62011456	A	19870120	JP 1985-149015	19850706
JP 63063231	B	19881206		
JP 62112604	A	19870523	JP 1985-252488	19851111
JP 05008921	B	19930203		
GB 2172891	A	19861001	GB 1986-7285	19860324
GB 2172891	B	19891018		
US 4708821	A	19871124	US 1986-843430	19860324
FR 2579604	A1	19861003	FR 1986-4268	19860325

FR 2579604  
PRIORITY APPLN. INFO.:

B1 19920221

<--

JP 1985-62690

A

198503  
27

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JP 1985-149015

A

198507  
06

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JP 1985-252488

A

198511  
11

<--

AB Aqueous gel compns., suitable for use as lubricants, especially in metalworking, are prepared in water by crosslinking a water-soluble acetoacetylated high mol.-weight **compound** with a **crosslinking agent**. The gel compns., which can contain a perfume or deodorant, are suitably prepared from acetoacetylated **poly(vinyl alc.)**, hydroxyethyl cellulose, hydroxypropyl cellulose, Me cellulose, CM-cellulose, and starch; suitable **crosslinking agents** include **compds.** containing amino, aldehyde, hydrazino, epoxy, and methylol groups, as well as a metal chelate or alkoxide. A 10% aqueous solution of acetoacetylated **poly(vinyl alc.)** (degree of acetoacetylation 5.5 mol%, degree of hydrolysis 99%, d.p. 1100) was mixed with 10 weight parts of a 10% aqueous solution of N-β-(aminoethyl)-γ-aminopropyltrimethoxysilane and stirred at room temperature, until gelation was complete within 4 min. The gel was transparent and was stable at room temperature for a week, at -20° for 24 h, and at 70° for 24 h.

IT 39290-68-1D, acetoacetylated 78207-15-5  
104708-71-6D, acetoacetylated 105953-68-2  
105953-69-3 105953-70-6

RL: USES (Uses)

(crosslinked, aqueous gels containing, as metalworking lubricants)

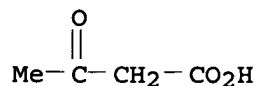
RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

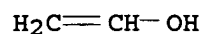
CRN 9002-89-5

CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5  
CMF C2 H4 O



RN 78207-15-5 HCAPLUS  
CN Starch, 3-oxobutanoate (9CI) (CA INDEX NAME)

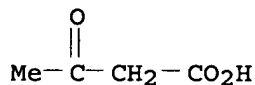
CM 1

CRN 9005-25-8  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 541-50-4  
CMF C4 H6 O3



RN 104708-71-6 HCAPLUS  
CN Cellulose, 3-oxobutanoate, 2-hydroxyethyl ether (9CI) (CA INDEX NAME)

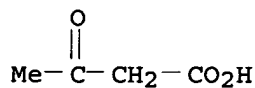
CM 1

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

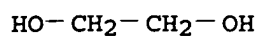
CM 2

CRN 541-50-4  
CMF C4 H6 O3



CM 3

CRN 107-21-1  
CMF C2 H6 O2



RN 105953-68-2 HCAPLUS  
CN Cellulose, 3-oxobutanoate, carboxymethyl ether (9CI) (CA INDEX  
NAME)

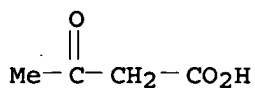
CM 1

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

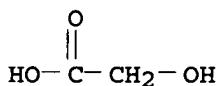
CM 2

CRN 541-50-4  
CMF C4 H6 O3



CM 3

CRN 79-14-1  
CMF C2 H4 O3



RN 105953-69-3 HCAPLUS  
CN Cellulose, 3-oxobutanoate, 2-hydroxypropyl ether (9CI) (CA INDEX  
NAME)

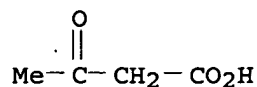
CM 1

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

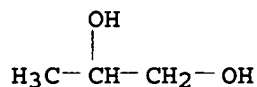
CM 2

CRN 541-50-4  
CMF C4 H6 O3



CM 3

CRN 57-55-6  
CMF C3 H8 O2



RN 105953-70-6 HCAPLUS  
CN Cellulose, 3-oxobutanoate, methyl ether (9CI) (CA INDEX NAME)

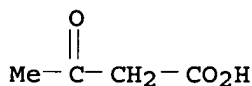
CM 1

CRN 9004-34-6  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

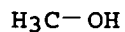
CM 2

CRN 541-50-4  
CMF C4 H6 O3

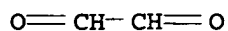


CM 3

CRN 67-56-1  
CMF C H4 O



IT 107-22-2  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agent, for preparation of aqueous gel lubricants)  
RN 107-22-2 HCAPLUS  
CN Ethanediol (CA INDEX NAME)



IC ICM C08J003-06  
ICS C08J003-24; C08L031-02; C08L001-32; C08K005-24; C08K005-17;  
C08K005-15; C08K005-07; C08K005-05; C10M173-02; A61K007-46;  
A61L009-01  
ICI C08J003-24, C08K005-24; C08K005-17, C08K005-15, C08K005-07,  
C08K005-05; C10M173-02, C10M107-24  
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)  
Section cross-reference(s): 56  
ST gel lubricant metalworking; crosslinked acetoacetyated polymer  
metalworking lubricant; **polyvinyl alc**  
crosslinked lubricant gel  
IT **Crosslinking agents**  
(for acetoacetylated compds., in preparation of aqueous gel metalworking  
lubricants)  
IT 9002-98-6D, acetoacetylated **39290-68-1D**, acetoacetylated  
**78207-15-5** **104708-71-6D**, acetoacetylated  
**105953-68-2** **105953-69-3** **105953-70-6**  
RL: USES (Uses)  
(crosslinked, aqueous gels containing, as metalworking lubricants)  
IT **107-22-2** **108-78-1D**, polymers **497-18-7** **1071-93-8**,  
Adipic acid dihydrazide **1760-24-3** **14814-02-9**, Titanium lactate  
**26142-30-3** **26403-72-5** **80778-56-9**  
RL: MOA (Modifier or additive use); USES (Uses)  
(**crosslinking agent**, for preparation of aqueous gel  
lubricants)  
IT **7429-90-5D**, alkoxide salts **7440-32-6D**, alkoxide salts  
**7440-67-7D**, alkoxide salts  
RL: MOA (Modifier or additive use); USES (Uses)  
(**crosslinking agents**, for preparation of aqueous gel  
metalworking lubricants)

L72 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1982:36282 HCAPLUS  
DOCUMENT NUMBER: 96:36282  
ORIGINAL REFERENCE NO.: 96:6017a,6020a  
TITLE: Resin solutions  
PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,  
Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

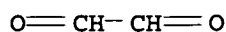
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56125446	A	19811001	JP 1980-28618	198003 06
JP 63020264	B	19880427		
PRIORITY APPLN. INFO.:			JP 1980-28618	A 198003 06

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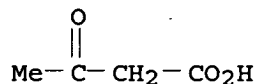
AB Solns. for casting waterproof films contain **poly(**  
**vinyl alc.)** acetoacetate (I). [**42615-46-3**]

], crosslinking agents, and  $\beta$ -diketones. Thus, I (6 mol% acetoacetate) 200, water 160, 25% glyoxal [107-22-2] 25, and acetylacetone [123-54-6] 180 parts was cast to a 100- $\mu$  film and dried 1 h at 105°. The film did not dissolve in 1 h in water at 80°.

IT 107-22-2  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agents, for poly(vinyl  
 acetoacetate) films)  
 RN 107-22-2 HCAPLUS  
 CN Ethanedial (CA INDEX NAME)

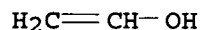


IT 39290-68-1  
 RL: USES (Uses)  
 (waterproof films from crosslinked)  
 RN 39290-68-1 HCAPLUS  
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)  
 CM 1  
 CRN 541-50-4  
 CMF C4 H6 O3



CM 2  
 CRN 9002-89-5  
 CMF (C2 H4 O)x  
 CCI PMS

CM 3  
 CRN 557-75-5  
 CMF C2 H4 O



IC C08L029-04; C08F008-00; C08K005-07  
 ICA C09D003-74; C09J003-14  
 CC 37-6 (Plastics Manufacture and Processing)  
 ST vinyl acetoacetate polymer film; film polymer waterproof;  
 crosslinking plastic film; glyoxal crosslinker film;  
 acetylacetone film waterproof  
 IT Crosslinking agents  
 (glyoxal, for poly(vinyl acetoacetate) films)  
 IT 107-22-2  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agents, for poly(vinyl



acetoacetate) films)  
 IT 39290-68-1  
 RL: USES (Uses)  
 (waterproof films from crosslinked)

=> d 173 ibib abs hitstr hitind 1-5

L73 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2004:780109 HCAPLUS  
 DOCUMENT NUMBER: 141:282800  
 TITLE: Solid dosage forms containing biodegradable  
 polymer and antibacterial and antiinflammatory  
 agents for treating periodontal disease  
 INVENTOR(S): Penhasi, Adel; Reuveni, Albert; Oren, Dan  
 PATENT ASSIGNEE(S): Dexcel Pharma Technologies Ltd., Israel  
 SOURCE: U.S. Pat. Appl. Publ., 17 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040185009	A1	20040923	US 2003-391196	20030319
CA 2519038	A1	20041007	CA 2004-2519038	20040317
WO 2004084873	A1	20041007	WO 2004-IL252	20040317
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1608349	A1	20051228	EP 2004-757724	20040317
EP 1608349	B1	20071017		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
AT 375789	T	20071115	AT 2004-757724	200403

17

ES 2298787 T3 20080516 ES 2004-757724

200403  
17

IN 2005DN04293 A 20070831 IN 2005-DN4293

200509  
22

PRIORITY APPLN. INFO.:

US 2003-391196

A

200303  
19

WO 2004-IL252

W

200403  
17

AB The present invention provides an oral delivery system for the treatment of periodontal disease, being in a solid unit dosage form for administration to a patient and comprising: (i) a biodegradable or bioerodible pharmaceutically acceptable polymer; (ii) a therapeutically effective amount of at least one antibacterial agent; and (iii) a therapeutically effective amount of at least one anti-inflammatory agent, the relative weight ratio between the antibacterial agent and the anti-inflammatory agent ranging from about 7:1 to about 1:5. The system may further comprise at least one of a **crosslinking agent**, a plasticizing agent, a wetting agent, a suspending agent, a surfactant and a dispersing agent.

IT 111-30-8, Pentanedial

RL: RCT (Reactant); RACT (Reactant or reagent)

(solid dosage forms containing biodegradable polymer and antibacterial and antiinflammatory agents for treating periodontal disease)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)

OHC- (CH<sub>2</sub>)<sub>3</sub>-CHO

IT 9002-89-5, Polyvinyl alcohol

36330-85-5, Fenbufen

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(solid dosage forms containing biodegradable polymer and antibacterial and antiinflammatory agents for treating periodontal disease)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

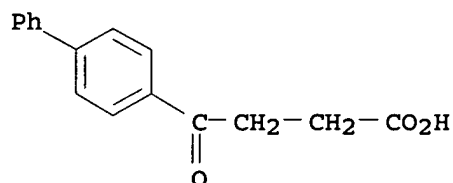
CM 1

CRN 557-75-5

CMF C2 H4 O

H<sub>2</sub>C=CH-OH

RN 36330-85-5 HCAPLUS  
 CN [1,1'-Biphenyl]-4-butanoic acid,  $\gamma$ -oxo- (CA INDEX NAME)



IC ICM A61K007-16  
 ICS A61F009-02  
 INCL 424049000  
 CC 63-6 (Pharmaceuticals)  
 IT Anti-inflammatory agents  
     **Crosslinking agents**  
     Dispersing agents  
     Gums and Mucilages  
     Human  
     Periodontium, disease  
     Plasticizers  
     Surfactants  
     Wetting agents  
         (solid dosage forms containing biodegradable polymer and  
         antibacterial and antiinflammatory agents for treating  
         periodontal disease)  
 IT 111-30-8, Pentanedial  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (solid dosage forms containing biodegradable polymer and  
     antibacterial and antiinflammatory agents for treating  
     periodontal disease)  
 IT 53-86-1, Indomethacin 55-56-1, Chlorhexidine 56-75-7,  
 Chloramphenicol 56-81-5, Glycerin, biological studies 57-62-5,  
 Chlortetracycline 57-92-1, Streptomycin, biological studies  
 60-54-8, Tetracycline 61-33-6, biological studies 61-68-7,  
 Mefenamic acid 63-74-1, Sulfonamide 65-85-0, Benzoic acid,  
 biological studies 69-72-7, Salicylic acid, biological studies  
 76-22-2, Camphor 77-92-9, biological studies 79-09-4D, Propionic  
 acid, derivs. 79-57-2, Oxytetracycline 88-99-3,  
 1,2-Benzenedicarboxylic acid, biological studies 112-80-1, Oleic  
 acid, biological studies 443-48-1, Metronidazole 530-78-9,  
 Flufenamic acid 564-25-0, Doxycycline 644-62-2, Meclofenamic  
 acid 1404-04-2, Neomycin 3697-42-5 5104-49-4, Flurbiprofen  
 9000-01-5, Acacia gum 9000-30-0, Guar gum 9002-89-5,  
 Polyvinyl alcohol 9003-05-8, Polyacryl amide  
 9003-39-8, Polyvinylpyrrolidone 9004-34-6D, Cellulose, derivs.  
 9005-25-8D, Starch, derivs. 11111-12-9, Cephalosporin  
 15307-86-5, Diclofenac 15687-27-1, Ibuprofen 17969-20-9,  
 Fenclizic acid 18472-51-0, Chlorhexidine di-gluconate  
 21256-18-8, Oxaprozin. 22071-15-4, Ketoprofen 22204-53-1,  
 Naproxen 25212-88-8 25249-16-5 25322-68-3 26009-03-0,  
 Polyglycolic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-  
 ethanediyl)] 26100-51-6, Polylactic acid 26124-68-5,  
 Polyglycolic acid 26171-23-3, Tolmetin 29679-58-1, Fenoprofen  
 31566-31-1, Glyceryl monostearate 31842-01-0, Indoprofen  
 34346-01-5, Glycolic acid-lactic acid copolymer 36322-90-4,  
 Piroxicam 36330-85-5, Fenbufen 38194-50-2, Sulindac

41340-25-4, Etodolac 53716-49-7, Carprofen 53808-88-1, Lonazolac  
59804-37-4, Tenoxicam 68767-14-6, Loxoprofen 71125-38-7,  
Meloxicam 758716-16-4

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(solid dosage forms containing biodegradable polymer and  
antibacterial and antiinflammatory agents for treating  
periodontal disease)

L73 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:325936 HCAPLUS

DOCUMENT NUMBER: 137:248530

TITLE: Properties of vinyl acetate resin emulsion using  
acetoacetylated PVA as a protected  
colloid and its wood adhesion ability

AUTHOR(S): Yamada, Masaaki

CORPORATE SOURCE: Department of Agriculture, Shizuoka University,  
Japan

SOURCE: Setchaku (2002), 46(3), 115-122

CODEN: STHKAO; ISSN: 0037-0495

PUBLISHER: Kobunshi Kankokai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB When acetoacetylated PVA (poly(vinyl  
alc.)) was used as a protective colloid to prepare a vinyl  
acetate resin emulsion as a one-component adhesive, if heat  
treatment at 120° was carried out, the acetoacetylated  
PVA was crosslinked and as a result the weight increase at the  
time of absorbing moisture became small and the nonelution rate was  
increased. When isocyanate or glyoxal aqueous solns. were used to prepare  
two-component adhesives the weight increase at the time of absorbing  
moisture became small and water-resistant adhesive strength was  
remarkably improved. And by addition of mixture of isocyanate and  
glyoxal, the adhesive strength was improved.

IT 107-22-2, Glyoxal

RL: TEM (Technical or engineered material use); USES (Uses)  
(crosslinking agent; viscoelasticity of vinyl  
acetate resin emulsion using glyoxal as a crosslinking  
agent)

RN 107-22-2 HCAPLUS

CN Ethanedial (CA INDEX NAME)

O=CH-CH=O

IT 39290-68-1

RL: TEM (Technical or engineered material use); USES (Uses)  
(properties of vinyl acetate resin emulsion using acetoacetylated  
PVA as a protected colloid and its wood adhesion ability)

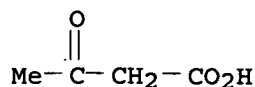
RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5  
 CMF (C2 H4 O)x  
 CCI PMS

CM 3

CRN 557-75-5  
 CMF C2 H4 O



- CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 43
- ST aceto acetylated PVA protected colloid vinyl acetate resin emulsion
- IT Adhesives  
 (one-component; acetoacetylated PVA used as a protective colloid to prepare a vinyl acetate resin emulsion as a one-component adhesive)
- IT Wood  
 (wood adhesion ability of vinyl acetate resin emulsion using acetoacetylated PVA as a protected colloid)
- IT 207308-43-8, Gohsenol GM 14L  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (as PVA in preparing vinyl acetate resin emulsion)
- IT 101-68-8, MDI  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (crosslinking agent; viscoelasticity of vinyl acetate resin emulsion using MDI as a crosslinking agent)
- IT 107-22-2, Glyoxal  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (crosslinking agent; viscoelasticity of vinyl acetate resin emulsion using glyoxal as a crosslinking agent)
- IT 9003-20-7D, Poly(vinyl acetate), saponified  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (properties of vinyl acetate resin emulsion using acetoacetylated PVA as a protected colloid and its wood adhesion ability)
- IT 39290-68-1  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (properties of vinyl acetate resin emulsion using acetoacetylated PVA as a protected colloid and its wood adhesion ability)

L73 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1997:237846 HCAPLUS  
 DOCUMENT NUMBER: 126:231566  
 ORIGINAL REFERENCE NO.: 126:44659a,44662a

TITLE: Thermal recording material with protective layer containing casein  
 INVENTOR(S): Okada, Kyomi  
 PATENT ASSIGNEE(S): Oji Paper Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

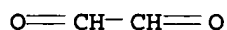
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09039387	A	19970210	JP 1995-190861	19950726

PRIORITY APPLN. INFO.: JP 1995-190861 19950726

AB The recording material comprises a transparent film, a recording layer containing a leuco dye and a developer, and a protective layer containing casein and acetoacetyl-modified poly(vinyl alc.) as water-soluble polymers. The protective layer may addnl. contain a silicone emulsion to improve transparency and antisticking property. The recording material has a uniform surface and shows good antisticking property.

IT 107-22-2, Glyoxal  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agent; transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)

RN 107-22-2 HCAPLUS  
 CN Ethanediol (CA INDEX NAME)

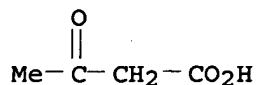


IT 39290-68-1, Gohsefimer Z 200  
 RL: DEV (Device component use); USES (Uses)  
 (transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)

RN 39290-68-1 HCAPLUS  
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4  
 CMF C4 H6 O3



CM 2

CRN 9002-89-5  
 CMF (C2 H4 O)x  
 CCI PMS

CM 3

CRN 557-75-5  
 CMF C2 H4 O

$$\text{H}_2\text{C}=\text{CH}-\text{OH}$$

- IC ICM B41M005-26  
 ICS B05D007-04; B05D007-24; B32B027-30; C08J007-04
- CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT Polysiloxanes, uses  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (emulsions; transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)
- IT Polysiloxanes, uses  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (epoxy-containing, emulsions; transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)
- IT Thermal printing  
 (transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)
- IT Caseins, uses  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)  
 (transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)
- IT 107-22-2, Glyoxal 140-95-4, Dimethylolurea  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agent; transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)
- IT 39290-68-1, Gohsefimer Z 200  
 RL: DEV (Device component use); USES (Uses)  
 (transparent thermal recording material with protective layer containing casein and poly(vinyl alc.) acetoacetate to improve antisticking property)

L73 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1992:642777 HCAPLUS  
 DOCUMENT NUMBER: 117:242777  
 ORIGINAL REFERENCE NO.: 117:41832h,41833a

TITLE: Thermal recording materials with poly(vinyl alcohol)-based protective layer  
 INVENTOR(S): Ueda, Shuichi; Fukui, Satoshi  
 PATENT ASSIGNEE(S): Oji Paper Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 04131275	A	19920501	JP 1990-254803	199009 25

PRIORITY APPLN. INFO.: <-- JP 1990-254803  
 199009  
 25

AB The title materials, comprising a support with coatings of a heat-sensitive layer containing  $\geq 1$  basic dye and a color-developer and a protective layer based on poly(vinyl alc.) (I) and/or its modified product, contain 3-30 weight% of an ammonium salt of styrene-maleic anhydride copolymer (II) esterified with iso-Bu alc. or Bu cellosolve ( $\geq 60\%$  esterification degree) and a **crosslinking agent** in the protective layer. The materials show good offset-printability and antisticking properties. Thus, a paper support was coated with a composition containing 3-di-n-butylamino-6-methyl-7-phenylaminofluoran and 4,4'-isopropylidenediphenol and with a protective layer containing I, ammonium salt of isobutyl-esterified II (esterification degree 70%), glyoxal, and a pigment to give a thermal recording paper.

IT 107-22-2, Glyoxal  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agent, thermal recording material protective layer using)

RN 107-22-2 HCAPLUS  
 CN Ethanedial (CA INDEX NAME)

O=CH-CH=O

IT 25215-62-7D, Butyl maleate-styrene copolymer, ammonium salts  
 RL: USES (Uses)  
 (thermal recording material protective layer using)

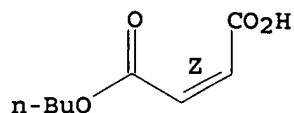
RN 25215-62-7 HCAPLUS  
 CN 2-Butenedioic acid (2Z)-, 1-butyl ester, polymer with ethenylbenzene  
 (CA INDEX NAME)

CM 1

CRN 925-21-3  
 CMF C8 H12 O4



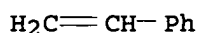
Double bond geometry as shown.



CM 2

CRN 100-42-5

CMF C8 H8



IT 9002-89-5, Poly(vinyl alcohol)

RL: USES (Uses)

(thermal recording material protective layer using, NH 17Q)

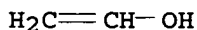
RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IC ICM B41M005-26

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST thermal recording material protective layer; polyvinyl alc thermal recording material; maleate styrene copolymer thermal recording

IT Printing, nonimpact

(thermal, materials for, with poly(vinyl alc.)-based protective layer)

IT 107-22-2, Glyoxal

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinking agent, thermal recording material protective layer using)

IT 25215-62-7D, Butyl maleate-styrene copolymer, ammonium salts

50658-25-8D, ammonium salts 144482-94-0D, Isobutyl maleate-styrene copolymer, ammonium salts

RL: USES (Uses)

(thermal recording material protective layer using)

IT 9002-89-5, Poly(vinyl alcohol)

RL: USES (Uses)

(thermal recording material protective layer using, NH 17Q)

L73 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1983:559434 HCAPLUS

DOCUMENT NUMBER: 99:159434

ORIGINAL REFERENCE NO.: 99:24455a,24458a

TITLE: Poly(vinyl alcohol

PATENT ASSIGNEE(S): ) composition with latent water-resistance  
Nippon Synthetic Chemical Industry Co., Ltd.,  
Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58059263	A	19830408	JP 1981-157778	198110 02
JP 60056755	B	19851211	JP 1981-157778	198110 02

AB A polymer composition which can give a water-resistant sheet, molding, and adhesive layer, etc., comprises (1) a water-soluble (or water-dispersible) polymer, (2) a water-soluble polymer having an acetoacetate ester group, and (3) a **crosslinking agent** reactive toward the acetoacetate in 2. Thus, 100 parts solution of poly(vinyl alc.) (I) [9002-89-5] (d.p. 1800, saponification degree 88%) 4, I acetoacetate [39290-68-1] (0.8 mol.% acetoacetylated) 6, and water 90% was mixed with 1.25 parts 40% aqueous glyoxal [107-22-2]. The mixture was cast, and left to give a 100-μ film, which was kept 8 days at 20° and 65% relative humidity. The film was immersed 1 h in water at 25° with stirring to swell 5:1 and loose 4.3% weight (dry), whereas a film prepared from the I alone was dissolved completely.

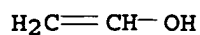
IT 107-22-2  
RL: MOA (Modifier or additive use); USES (Uses)  
(**crosslinking agents**, for poly(vinyl alc.) containing acetoacetate ester groups, for water-resistance improvement)  
RN 107-22-2 HCAPLUS  
CN Ethanedial (CA INDEX NAME)

O=CH-CH=O

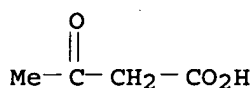
IT 9002-89-5  
RL: USES (Uses)  
(films, acetoacetylated poly(vinyl alc.)-containing, crosslinked, water-resistant)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

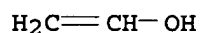
CRN 557-75-5  
CMF C2 H4 O



IT 39290-68-1  
 RL: USES (Uses)  
 (poly(vinyl alc.) films containing,  
 crosslinked, water-resistant)  
 RN 39290-68-1 HCAPLUS  
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)  
 CM 1  
 CRN 541-50-4  
 CMF C4 H6 O3



CM 2  
 CRN 9002-89-5  
 CMF (C2 H4 O)x  
 CCI PMS  
 CM 3  
 CRN 557-75-5  
 CMF C2 H4 O



IC C08L101-06; C08L101-00  
 CC 37-6 (Plastics Manufacture and Processing)  
 ST polyvinyl alc film water resistance; glyoxal  
 crosslinking agent; acetoacetylated  
 polyvinyl alc crosslinking agent  
 IT 107-22-2  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agents, for poly(  
 vinyl alc.) containing acetoacetate ester groups,  
 for water-resistance improvement)  
 IT 9002-89-5  
 RL: USES (Uses)  
 (films, acetoacetylated poly(vinyl  
 alc.)-containing, crosslinked, water-resistant)  
 IT 39290-68-1  
 RL: USES (Uses)  
 (poly(vinyl alc.) films containing,  
 crosslinked, water-resistant)

=> d 174 ibib abs hitstr hitind 1-16

L74 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:823307 HCAPLUS  
 DOCUMENT NUMBER: 143:235397  
 TITLE: Intravascular delivery of nucleic acid  
 INVENTOR(S): Wolff, Jon A.; Budker, Vladimir G.; Hagstrom,  
 James E.; Hegge, Julia  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 46 pp., Cont.-in-part of  
 U.S. Ser. No. 855,175.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 49  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050182013	A1	20050818	US 2004-8856	20041210
US 7015040	B2	20060321	<--	
US 20010019723	A1	20010906	US 1999-450315	19991129
US 6379966	B2	20020430	<--	
AT 342736	T	20061115	AT 2000-976999	20001106
ES 2269199	T3	20070401	ES 2000-976999	20001106
US 20030166280	A1	20030904	US 2002-85378	20020227
US 6897068	B2	20050524	<--	
US 20040242528	A1	20041202	US 2004-855175	20040527
US 20060093584	A1	20060504	US 2005-268276	20051107
PRIORITY APPLN. INFO.:			US 1999-121730P	P 19990226
			US 1999-146564P	P 19990730
			US 1999-163719P	P 19991105

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US 1999-450315 A2 199911  
29  
  
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US 2000-707000 A2 200011  
06  
  
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US 2002-85378 A2 200202  
27  
  
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US 2003-473654P P 200305  
28  
  
<--  
US 2003-500211P P 200309  
04  
  
<--  
US 2004-855175 A2 200405  
27  
  
US 2004-8856 A3 200412  
10

AB Disclosed is a process for providing for expression of an exogenous nucleic acid in an extravascular parenchymal cell of a mammal. The nucleic acid is inserted into a vessel of a mammal and the permeability of the vessel is increased. Increasing permeability of the vessel allows delivery of the nucleic acid to an extravascular parenchymal cell.

IT 111-30-8, Glutaric dialdehyde 3128-06-1,  
4-Acetylbutyric acid 9002-89-5, Polyvinylalcohol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(intravascular delivery of nucleic acid)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>3</sub>-CHO

RN 3128-06-1 HCAPLUS

CN Hexanoic acid, 5-oxo- (CA INDEX NAME)

$$\begin{array}{c} \text{O} \\ || \\ \text{Me}-\text{C}-(\text{CH}_2)_3-\text{CO}_2\text{H} \end{array}$$

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5  
CMF C2 H4 O

H<sub>2</sub>C=CH-OH

IC ICM A61K048-00  
ICS C12N015-85; C12N015-88  
INCL 514044000; X43-545.5; X43-545.8  
CC 63-6 (Pharmaceuticals)  
IT 56-81-5, Glycerol, reactions 56-89-3, L-Cystine, reactions  
69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 75-09-2,  
Dichloromethane, reactions 108-30-5, Succinic anhydride, reactions  
111-30-8, Glutaric dialdehyde 112-57-2,  
Tetraethylenepentamine 121-44-8, Triethylamine, reactions  
616-02-4, Citraconic anhydride 3128-06-1, 4-Acetylbutyric  
acid 4067-16-7, Pentaethylenehexamine 4097-89-6,  
Tris(2-aminoethyl)amine 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-  
propanediamine 6066-82-6, N-Hydroxysuccinimide 6192-52-5,  
p-Toluenesulfonic acid monohydrate 7087-68-5,  
Diisopropylethylamine 7209-38-3, 1,4-Bis(3-aminopropyl)piperazine  
9002-89-5, Polyvinylalcohol 25619-78-7,  
Poly-L-tyrosine 25667-16-7 38000-06-5, Poly-L-lysine  
52328-05-9, O-Methylisourea hydrogen sulfate 58632-95-4,  
2-(tert-Butoxycarbonyloxyimino)-2-phenylacetone nitrile 59269-51-1,  
Polyvinylphenol 289888-08-0, 5,5'-Dithiobis(2-nitrobenzoic  
acid)-Pentaethylenehexamine Copolymer 289888-09-1,  
5,5'-Dithiobis(2-nitrobenzoic acid)-Tetraethylenepentamine Copolymer  
289888-10-4, 5,5'-Dithiobis(2-nitrobenzoic acid)-  
Tetraethylenepentamine-Tris(2-aminoethyl)amine Copolymer  
289888-12-6, 5,5'-Dithiobis(2-nitrobenzoic acid)-N,N'-Bis(2-  
aminoethyl)-1,3-propanediamine-Tris(2-aminoethyl)amine Copolymer  
289888-18-2, 1,4-Bis(3-aminopropyl)piperazine Glutaric  
Dialdehyde Copolymer  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(intravascular delivery of nucleic acid)  
IT 616-02-4DP, Citraconic anhydride, reaction product with  
polyvinylphenol 766-39-2DP, 2,3-Dimethylmaleic anhydride, reaction  
product with poly-L-lysine 25104-18-1DP, Poly-L-lysine, reaction  
product with citraconic anhydride 25619-78-7DP, Poly-L-tyrosine,  
reaction product with citraconic anhydride 25667-16-7DP, reaction  
product with citraconic anhydride 26742-84-7DP, Polyvinyl phenyl  
ketone, reaction products with glycerol and succinic  
anhydride 38000-06-5DP, Poly-L-lysine, reaction product with  
citraconic anhydride 59269-51-1DP, Polyvinylphenol, reaction  
product with citraconic anhydride  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(intravascular delivery of nucleic acid)  
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN  
THE RE FORMAT

L74 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:681380 HCAPLUS  
DOCUMENT NUMBER: 141:212745  
TITLE: Delivery of siRNA to cells using polyampholytes  
INVENTOR(S): Trubetskoy, Vladimir S.; Rozema, David B.;  
Monahan, Sean D.; Budker, Vladimir G.; Hagstrom,  
James E.; Wolff, Jon A.

PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 24 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040162235	A1	20040819	US 2003-368139	20030218
WO 2004076674	A1	20040910	WO 2003-US12949	20030428
W: JP				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1620560	A1	20060201	EP 2003-743755	20030428
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			US 2003-368139	20030218
			WO 2003-US12949	20030428

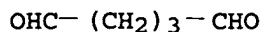
AB A polyampholyte is utilized in a complex with siRNA for purposes of siRNA delivery to a cell. The complex can be formed with an appropriate amount of pos. and/or neg. charge such that the resulting complex can be delivered into a cell in vivo or in vitro. For example, complexes containing siRNA/branched PEI (brPEI) were toxic to mice and provided no inhibition of firefly luciferase activity. siRNA/brPEI complexes recharged with poly(aspartic acid) (pAsp) were less toxic than siRNA/brPEI complexes, but did not result in siRNA-mediated inhibition of luciferase activity (10-20% inhibition of luciferase expression). However, when siRNA-containing complexes were made using brPEI-pAsp polyampholytes, PEI toxicity was reduced and siRNA was functionally delivered to lung cells. Polyampholyte-mediated delivery of siRNA resulted in the gene-specific inhibition of firefly luciferase expression by 60%.

IT 111-30-8, Glutaric dialdehyde 692-29-5,  
 Succinic semialdehyde 9002-89-5,  
 Polyvinyl alcohol

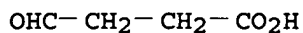
RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of polyampholytes for siRNA delivery to cells)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



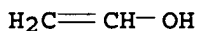
RN 692-29-5 HCAPLUS  
CN Butanoic acid, 4-oxo- (CA INDEX NAME)



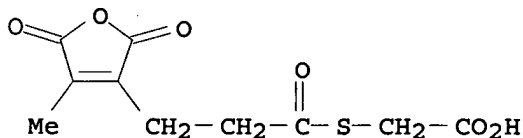
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

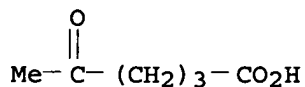
CRN 557-75-5  
CMF C2 H4 O



IT 627079-21-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(preparation of polyampholytes for siRNA delivery to cells)  
RN 627079-21-4 HCAPLUS  
CN Acetic acid, 2-[[3-(2,5-dihydro-4-methyl-2,5-dioxo-3-furanyl)-1-oxopropyl]thio]- (CA INDEX NAME)



IT 3128-06-1DP, 4-Acetylbutyric acid, polyvinyl  
alc. ketal derivs. 9002-89-5DP, dioxolane/succinic  
and acetylbutyric derivs.  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(preparation of polyampholytes for siRNA delivery to cells)  
RN 3128-06-1 HCAPLUS  
CN Hexanoic acid, 5-oxo- (CA INDEX NAME)



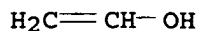
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

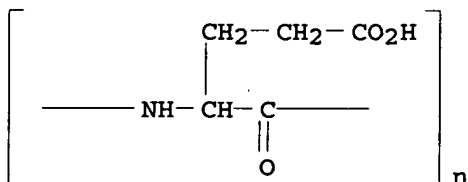
CRN 557-75-5



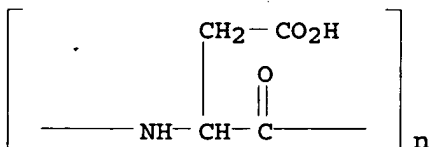
CMF C2 H4 O



IT 24991-23-9 26063-13-8, Polyaspartic acid  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (preparation of polyampholytes for siRNA delivery to cells)  
 RN 24991-23-9 HCAPLUS  
 CN Poly[imino[(1S)-1-(2-carboxyethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



RN 26063-13-8 HCAPLUS  
 CN Poly[imino[(1S)-1-(carboxymethyl)-2-oxo-1,2-ethanediyl]] (CA INDEX NAME)



IC ICM A61K048-00  
 INCL 514008000; 514044000; 424486000  
 CC 63-6 (Pharmaceuticals)  
 Section cross-reference(s): 3, 35  
 IT 56-81-5, Glycerol, reactions 68-11-1, Mercaptoacetic acid, reactions 79-37-8, Oxalyl chloride 110-75-8, 2-Chloroethyl vinyl ether 111-30-8, Glutaric dialdehyde 112-90-3, Oleylamine 298-12-4, Glyoxylic acid 515-94-6, 2,3-Diaminopropionic acid 692-29-5, Succinic semialdehyde 766-39-2, 2,3-Dimethylmaleic anhydride 1009-61-6, 1,4-Diacetylbenzene 1074-82-4, Potassium phthalimide 2163-48-6, Diethylpropyl malonate 3699-66-9, Triethyl-2-phosphonopropionate 5036-48-6, 1-(3-Aminopropyl)imidazole 6066-82-6, N-Hydroxysuccinimide 7209-38-3, 1,4-Bis(3-aminopropyl)piperazine 9002-89-5, Polyvinyl alcohol 10389-65-8 13192-04-6, Dimethyl 2-oxoglutarate 13726-67-5, N-(tert-Butoxycarbonyl)-L-aspartic acid 13822-56-5, 3-Aminopropyltrimethoxysilane 22483-09-6, Aminoacetaldehyde dimethyl acetal 29022-11-5, Fmoc-glycine 30551-89-4D, Polyallylamine, amino acid conjugate derivs. 37231-28-0, Melittin 60129-38-6 67995-63-5, Pardaxin 149942-14-3 167700-44-9 212626-14-7 289888-16-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of polyampholytes for siRNA delivery to cells)  
 IT 487-66-1DP, aldehyde/amino acid derivs. 487-66-1P

26742-84-7DP, reaction products with glycerol 39654-47-2P  
 67643-67-8P 313048-70-3P 313049-16-0P, MC 216 313049-22-8P, MC  
 211 313049-25-1P, MC 225 313049-26-2P, MC 372 313049-27-3P, MC  
 373 313058-14-9DP, polyallylamine conjugate derivs. 313271-83-9P  
 627079-21-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)

(preparation of polyampholytes for siRNA delivery to cells)

IT 487-66-1DP, reaction products with melittin/pardaxin and amino acid  
 polymers 766-39-2DP, conjugates with polymers 3128-06-1DP  
 , 4-Acetylbutyric acid, polyvinyl alc. ketal  
 derivs. 9002-89-5DP, dioxolane/succinic and acetylbutyric  
 derivs. 9011-16-9DP, MC 510, histidine/histamine derivs.  
 9011-16-9P, MC 486 22483-09-6DP, polyvinyl derivs. 25513-46-6DP,  
 aldehyde derivs., reaction products with melittin/pardaxin  
 31195-43-4P 37231-28-0DP, Melittin, conjugates with polymers  
 41306-56-3DP, 1H-Imidazole-2-propanamine, polyvinyl derivs.  
 138134-74-4P 147938-60-1P 149942-14-3DP, polycation derivs.  
 289888-17-1P, MC 151 313049-45-5P, MC 217 313050-83-8P  
 313050-85-0DP, reduced 313050-85-0P, MC 208 313050-86-1P, MC 300  
 313050-87-2P, MC 218 313050-88-3P, MC 226 313050-90-7P, MC 227  
 313050-93-0P, MC 321 313050-95-2P, MC 322 313050-96-3P, MC 229  
 313050-98-5P, MC 323 313051-09-1P, MC 325 313051-18-2P, MC 326  
 313051-28-4P, MC 330 313051-29-5P, MC 331 313051-30-8P, MC 312  
 313051-31-9P, MC 332 313051-32-0P, MC 340 313051-33-1P, MC 347  
 313051-34-2P, MC 339 313051-35-3P, MC 346 313051-36-4P, MC 352  
 313051-37-5P, MC 357 313058-18-3P 313058-19-4P, MC 324  
 371246-56-9P 371246-66-1P 618106-39-1P, MC 222 618106-46-0P,  
 MC 369 618107-18-9P, MC 221 618114-23-1DP, succinic  
 semialdehyde derivs. 618114-23-1P, MC 196 639070-47-6P,  
 DW 291 741284-09-3P 741284-15-1P, DW 163 741284-19-5P  
 741284-21-9P 742087-16-7P, MC 301 (polyampholyte) 742087-90-7P,  
 MC 358 742088-23-9P, MC 366 742088-24-0P, MC 367 742088-26-2P,  
 MC 370 742088-28-4P, MC 360 742091-41-4P, DW 297 742091-42-5P,  
 DW 301 (polymer)

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL  
 (Biological study); PREP (Preparation); USES (Uses)

(preparation of polyampholytes for siRNA delivery to cells)

IT 9002-98-6, PEI 9002-98-6D, PEI, succinylated 9003-01-4,  
 Polyacrylic acid 9004-61-9, Hyaluronic acid 9005-49-6, Heparin,  
 biological studies 9042-14-2, Dextran sulfate 24991-23-9  
 25087-26-7, Polymethacrylic acid 25104-18-1, Poly(L-lysine)  
 25513-46-6, Polyglutamic acid 25608-40-6, Polyaspartic acid  
 26063-13-8, Polyaspartic acid 38000-06-5, Poly(L-lysine)  
 38000-06-5D, succinylated, reactions with methylmaleic anhydride and  
 peptides

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (preparation of polyampholytes for siRNA delivery to cells)

L74 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:466800 HCAPLUS

DOCUMENT NUMBER: 141:31131

TITLE: Thermal printing material with layer containing  
 poly(vinyl alcohol)  
 derivative

INVENTOR(S): Ono, Hiroyuki; Shibuya, Mitsuo

PATENT ASSIGNEE(S): Nippon Synthetic Chemical Industry Co., Ltd.,  
 Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004160862	A	20040610	JP 2002-330255	20021114

PRIORITY APPLN. INFO.: JP 2002-330255 20021114

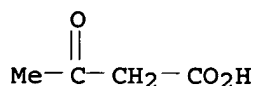
AB The material has a layer containing (A) poly(vinyl alc.) having aldehyde group on the side chain and (B) water-soluble resin having active H group. The material shows good water resistance and antisticking property.

IT 39290-68-1P, Poly(vinyl alcohol) acetoacetate  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (thermal printing material with layer containing poly(vinyl alc.) derivative)

RN 39290-68-1 HCAPLUS  
 CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4  
 CMF C4 H6 O3

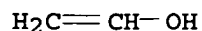


CM 2

CRN 9002-89-5  
 CMF (C2 H4 O)x  
 CCI PMS

CM 3

CRN 557-75-5  
 CMF C2 H4 O



IT 107-22-2, Glyoxal  
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
 (waterproofing agent; thermal printing material with layer containing

poly(vinyl alc.) derivative)  
RN 107-22-2 HCAPLUS  
CN Ethanedial (CA INDEX NAME)

O=CH-CH=O

IC ICM B41M005-26  
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST thermal printing material polyvinyl alc aldehyde; water soluble resin layer thermal printing material  
IT Thermal printing materials  
Waterproofing agents  
(thermal printing material with layer containing poly(vinyl alc.) derivative)  
IT 26838-26-6DP, Allylidene diacetate-vinyl acetate copolymer, saponified  
27435-32-1DP, Diacetoneacrylamide-vinyl acetate copolymer, saponified  
39290-68-1P, Poly(vinyl alcohol)  
) acetoacetate 187160-36-7DP, Thioacetic acid-vinyl acetate telomer, saponified  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses).  
(thermal printing material with layer containing poly(vinyl alc.) derivative)  
IT 29792-49-2, PVAM 0595B  
RL: TEM (Technical or engineered material use); USES (Uses)  
(thermal printing material with layer containing poly(vinyl alc.) derivative)  
IT 107-22-2, Glyoxal  
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)  
(waterproofing agent; thermal printing material with layer containing poly(vinyl alc.) derivative)

L74 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:452925 HCAPLUS  
DOCUMENT NUMBER: 141:17570  
TITLE: Intravascular delivery of nonviral nucleic acid  
INVENTOR(S): Hagstrom, James E.; Wolff, Jon A.; Monahan, Sean D.; Rozema, David B.; Budker, Vladimir G.; Slattum, Paul M.; Lewis, David L.  
PATENT ASSIGNEE(S): USA  
SOURCE: U.S. Pat. Appl. Publ., 35 pp., Cont.-in-part of U.S. Ser. No. 447,966.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 49  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040106567	A1	20040603	US 2003-609938	20030630

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US 20010008882 A1 20010719 US 1999-391260 199909  
07

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US 20010004636 A1 20010621 US 1999-447966 199911  
23

<--  
US 6627616 B2 20030930  
WO 2005009476 A1 20050203 WO 2003-US25737 200308  
18

<--  
W: JP  
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,  
IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR  
EP 1667728 A1 20060614 EP 2003-810873 200308  
18

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK  
PRIORITY APPLN. INFO.: US 1999-391260 A2 199909  
07

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US 1999-447966 A2 199911  
23

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US 1995-571536 A 199512  
13

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US 1997-975573 A1 199711  
21

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US 2003-609938 A 200306  
30

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WO 2003-US25737 W 200308  
18

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AB The process comprises designing a polynucleotide, such as an siRNA, for transfection. The polynucleotide is inserted into a mammalian vessel such as an artery. Prior to insertion, subsequent to insertion, or concurrent with insertion, volume in the vessel is increased allowing the polynucleotide delivery to the parenchymal cell. In one preferred embodiment, a process is described for delivering a polynucleotide into a parenchymal cell of a mammal, comprising making a polynucleotide such as a nucleic acid, then inserting the polynucleotide into a mammalian vessel (e.g. a blood vessel) and increasing the permeability of the vessel, finally delivering the polynucleotide to the parenchymal cell thereby altering endogenous properties of the cell. Increasing the permeability of the vessel consists of increasing pressure against vessel walls. Increasing the pressure consists of increasing a volume

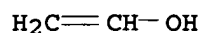
of fluid within the vessel. Increasing the volume consists of inserting the polynucleotide in a solution into the vessel wherein the solution contains a compound which complexes with the polynucleotide. Preparation of polymers (e.g. L-cystine-1,4-bis(3-aminopropyl)piperazine copolymer) complexable with polynucleotides is also included.

IT 9002-89-5DP, acetylbutyric ketal derivs.  
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(intravascular delivery of nonviral nucleic acid)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

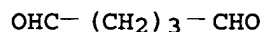
CM 1

CRN 557-75-5

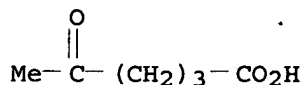
CMF C2 H4 O



IT 111-30-8, Glutaric dialdehyde 3128-06-1,  
4-Acetylbutyric acid 9002-89-5, Polyvinyl  
alcohol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(intravascular delivery of nonviral nucleic acid)  
RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)



RN 3128-06-1 HCAPLUS  
CN Hexanoic acid, 5-oxo- (CA INDEX NAME)

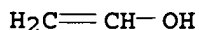


RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IC ICM A61K048-00  
INCL 514044000  
CC 1-1 (Pharmacology)  
Section cross-reference(s): 35, 63  
IT 9002-89-5DP, acetylbutyric ketal derivs. 25667-16-7DP,  
citraconyl derivs. 38000-06-5DP, citraconyl/methylmaleic derivs.

289888-18-2P 313050-91-8P 680571-12-4P  
 RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (intravascular delivery of nonviral nucleic acid)

IT 56-81-5, Glycerol, reactions 56-89-3, L-Cystine, reactions  
 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 105-83-9,  
 3,3'-Diamino-N-methyldipropylamine 108-30-5, Succinic anhydride,  
 reactions 109-78-4, 3-Hydroxypropionitrile 111-30-8,  
 Glutaric dialdehyde 112-57-2, Tetraethylenepentamine  
 616-02-4, Citraconic anhydride 766-39-2, 2,3-Dimethylmaleic  
 anhydride 3128-06-1, 4-Acetylbutyric acid 4067-16-7,  
 Pentaethylenehexamine 4097-89-6, Tris(2-aminoethyl)amine  
 4741-99-5 6066-82-6, N-Hydroxysuccinimide 7209-38-3,  
 1,4-Bis(3-aminopropyl)piperazine 9002-89-5,  
 Polyvinyl alcohol 24424-99-5, Boc anhydride  
 25619-78-7, Poly-L-tyrosine 25667-16-7 26742-84-7, Polyvinyl  
 phenyl ketone 52328-05-9, O-Methylisourea hydrogen  
 sulfate 58632-95-4 59269-51-1, Polyvinylphenol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (intravascular delivery of nonviral nucleic acid)

L74 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:100662 HCAPLUS  
 DOCUMENT NUMBER: 140:160084  
 TITLE: Biochips for characterizing biological processes  
 INVENTOR(S): Kreimer, David I.; Nufert, Thomas H.; Ginzburg,  
 Lev; Yevin, Oleg A.  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 71 pp., Cont.-in-part of  
 U.S. Ser. No. 925,189.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 9  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040023293	A1	20040205	US 2002-294385	200211 14
US 20010053521	A1	20011220	US 2001-815909	200103 23
US 20020132371	A1	20020919	US 2001-925189	200108 08
WO 2002077558	A2	20021003	WO 2002-US8858	200203 22
WO 2002077558	A3	20071122		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,				

NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,  
 TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,  
 CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,  
 SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
 SN, TD, TG, AP, EA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, EP,  
 OA

AU 2002255883	A1	20021008	AU 2002-255883		200203 22
			<--		
TW 530146	B	20030501	TW 2002-91105672		200203 22
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US 20030180720	A1	20030925	US 2003-364160		200302 11
			<--		
PRIORITY APPLN. INFO.:			US 1999-156195P	P	199909 27
			<--		
			US 2000-670453	A2	200009 26
			<--		
			US 2001-815909	A2	200103 23
			<--		
			US 2001-925189	A2	200108 08
			<--		
			US 2001-336445P	P	200111 14
			<--		
			US 1999-156145P	P	199909 27
			<--		
			US 1999-156471P	P	199909 27
			<--		
			US 2000-669369	A	200009 26
			<--		
			US 2000-669796	A	200009 26
			<--		
			US 2001-815828	A	200103 23
			<--		
			US 2002-356254P	P	



200202  
11

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WO 2002-US8858

W

200203  
22

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US 2002-294385

A2

200211  
14

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US 2002-298725

A2

200211  
18

&lt;--

AB This invention includes biochips for anal. of a variety of mols., cell components and cells. Embodiments of this invention include devices and methods for the parallel and/or nearly parallel processing of biol. analytes. Biochips can comprise a substrate, Raman signal-enhancing structures, and receptors selective and/or specific for the analyte(s) to be assayed. Biochips can be read using a Raman reader and can provide for rapid, sensitive, direct assays for physiol. and/or pathophysiol. conditions of interest. Gold-coated quartz slides with silver fractal aggregates as enhancing agents and immobilized reduced glutathione as receptor were used to detect glutathione S-transferase by Raman spectroscopy.

IT 541-50-4, Acetoacetic acid, analysis 542-78-9,

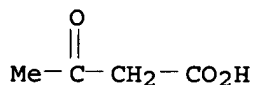
**Malondialdehyde**

RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)

(analyte; biochips having analyte-specific receptors and enhancing particle structures on substrates for characterizing biol. processes)

RN 541-50-4 HCAPLUS

CN Butanoic acid, 3-oxo- (CA INDEX NAME)



RN 542-78-9 HCAPLUS

CN Propanedial (9CI) (CA INDEX NAME)



IT 9002-89-5, Poly(vinyl alcohol)

RL: NUU (Other use, unclassified); USES (Uses)

(in preparation of fractal silver aggregates; biochips having analyte-specific receptors and enhancing particle structures on substrates for characterizing biol. processes)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

 $\text{H}_2\text{C}=\text{CH}-\text{OH}$ 

IC ICM G01N033-53  
ICS G01N033-574; C12M001-34  
INCL 435007100; 435007230; 435287200  
CC 9-1 (Biochemical Methods)  
IT 50-21-5, Lactic acid, analysis 50-67-9, Serotonin, analysis  
50-99-7, D-Glucose, analysis 53-57-6, NADPH 53-59-8, NADP+  
53-84-9, NAD+ 56-65-5, 5'-ATP, analysis 56-73-5, Glucose  
6-phosphate 57-00-1, Creatine 57-03-4, Glycerol 3-phosphate  
57-60-3, Pyruvate, analysis 58-64-0, 5'-ADP, analysis 58-68-4,  
NADH 60-92-4, CAMP 61-19-8, AMP, analysis 63-39-8, UTP  
65-47-4, CTP 67-07-2, Creatine phosphate 72-89-9, Acetyl Co-A  
86-01-1, GTP 108-24-7, Acetyl acetate 113-21-3, Lactate,  
analysis 138-08-9, Phosphoenolpyruvic acid 300-85-6 365-08-2,  
DTTP 541-50-4, Acetoacetic acid, analysis 542-78-9  
, Malondialdehyde 590-54-5, Acetyl phosphate  
1910-41-4, FADH 1927-31-7, DATP 1981-49-3, 1,3-  
Diphosphoglycerate 2056-98-6, DCTP 2564-35-4, DGTP 9001-05-2,  
Catalase 9001-12-1, MMP-1 9001-48-3, Glutathione reductase  
9001-68-7, NADPH oxidoreductase 9001-90-5, Plasmin 9007-43-6,  
Cytochrome-C, analysis 9013-66-5, Glutathione peroxidase  
9025-26-7, Cathepsin-D 9031-37-2, Ceruloplasmin 9035-34-1,  
Cytochrome-A 9035-37-4, Cytochrome b 9035-68-1, Proinsulin  
9047-22-7, Cathepsin B 9054-89-1, Superoxide dismutase  
9059-22-7, Heme oxygenase 27025-41-8, Oxidized glutathione  
39287-99-5, Pro MMP-1 39391-18-9, Prostaglandin H synthetase  
60616-82-2, Cathepsin-L 81669-70-7, Metalloproteinase  
124861-55-8, TIMP-2 125978-95-2, Nitric oxide synthetase  
127464-60-2, Vascular endothelial growth factor 140208-24-8,  
TIMP-1 145809-21-8, TIMP-3 146480-35-5, MMP 2 146480-36-6, MMP  
9 148969-98-6, Pro MMP-2 152787-66-1, Pro MMP-9 169592-56-7,  
Caspase-3 176742-42-0, Pro-cathepsins 182372-14-1, Caspase-2  
214894-56-1 329900-75-6, Cyclooxygenase 2 329967-85-3,  
Cyclooxygenase 1 570400-25-8  
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST  
(Analytical study); BIOL (Biological study)  
(analyte; biochips having analyte-specific receptors and  
enhancing particle structures on substrates for characterizing  
biol. processes)  
IT 68-04-2, Sodium citrate 7647-14-5, Sodium chloride, uses  
9002-89-5, Poly(vinyl alcohol)  
16940-66-2  
RL: NUU (Other use, unclassified); USES (Uses)  
(in preparation of fractal silver aggregates; biochips having  
analyte-specific receptors and enhancing particle structures on  
substrates for characterizing biol. processes)

L74 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:453489 HCAPLUS

DOCUMENT NUMBER: 135:41003

TITLE: Intravascular delivery of non-viral nucleic acid

INVENTOR(S): Monahan, Sean D.; Wolf, Jon A.; Slatum, Paul  
M.; Hagstrom, James E.; Budker, Vladimir G.;  
Rozema, David B.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 19 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20010004636 A1		20010621US	1999-447966	199911 23

AB Disclosed is a process for transfecting genetic material into a mammalian cell to alter endogenous properties of the cell. The process comprises designing a polynucleotide for transfection. Then the polynucleotide is inserted into a mammalian vessel such as a tail vein or artery. Prior to insertion, subsequent to insertion, or concurrent with insertion the permeability of the vessel is increased thereby the genetic material is delivered to the parenchymal cell altering endogenous properties of the cell. The naked polynucleotide is complexed prior to delivery with amphipathic compds., polymers, or other nonviral vectors. Syntheses are described for the preparation of several activated disulfide-containing co-monomers and of pH-cleavable polymers for intracellular compartment release.

IT 9002-89-5DP, Polyvinyl alcohol, reaction products with 5-oxohexanoic acid  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(intravascular delivery of non-viral nucleic acid)

RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5  
CMF C2 H4 O

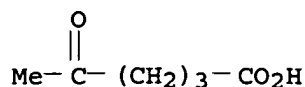
$\text{H}_2\text{C}=\text{CH}-\text{OH}$

IT 111-30-8, Pentanedial 3128-06-1, 4-Acetylbutyric acid 9002-89-5, Polyvinyl alcohol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(intravascular delivery of non-viral nucleic acid)

RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)

$\text{OHC}-(\text{CH}_2)_3-\text{CHO}$

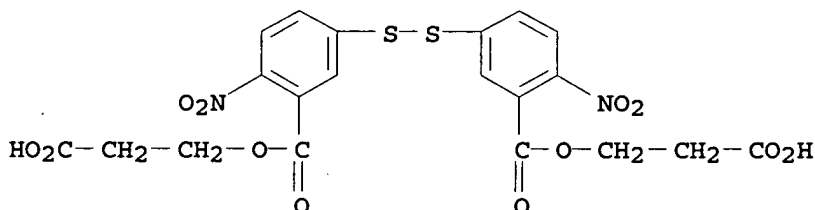
RN 3128-06-1 HCAPLUS  
CN Hexanoic acid, 5-oxo- (CA INDEX NAME)



RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (CA INDEX NAME)  
 CM 1  
 CRN 557-75-5  
 CMF C2 H4 O



IT 289888-04-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (intravascular delivery of non-viral nucleic acid)  
 RN 289888-04-6 HCAPLUS  
 CN Benzoic acid, 3,3'-dithiobis[6-nitro-, bis(2-carboxyethyl) ester  
 (9CI) (CA INDEX NAME)



IC ICM A61K031-70  
 ICS A01N043-04; C07H021-04  
 INCL 514044000  
 CC 1-1 (Pharmacology)  
 Section cross-reference(s): 3  
 IT 9002-89-5DP, Polyvinyl alcohol, reaction  
 products with 5-oxohexanoic acid 25104-18-1DP, Poly(L-lysine),  
 reaction products with citraconic anhydride or dimethylmaleic  
 anhydride 25619-78-7DP, Poly(L-tyrosine), reaction products with  
 citraconic anhydride 25667-16-7DP, reaction products with  
 citraconic anhydride 26742-84-7DP, Poly(vinyl phenyl  
 ketone), reaction products with glycerol or with glycerol  
 and succinic anhydride 38000-06-5DP, Poly(L-lysine), reaction  
 products with citraconic anhydride or dimethylmaleic anhydride  
 59269-51-1DP, Polyvinylphenol, reaction products with citraconic  
 anhydride 209517-47-5P 289888-07-9P 289888-08-0P  
 289888-09-1P 289888-10-4P 289888-11-5P 289888-12-6P  
 289888-14-8P 289888-15-9P 289888-17-1P 289888-18-2P  
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);  
 THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);  
 USES (Uses)  
 (intravascular delivery of non-viral nucleic acid)  
 IT 56-81-5, 1,2,3-Propanetriol, reactions 56-89-3, L-Cystine,

reactions 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 105-83-9  
 109-78-4, 3-Hydroxypropionitrile 111-30-8, Pentanedial  
 112-57-2, Tetraethylenepentamine 616-02-4, Citraconic anhydride  
 766-39-2, 2,3-Dimethylmaleic anhydride 3128-06-1,  
 4-Acetylbutyric acid 4067-16-7, Pentaethylenehexamine 4097-89-6,  
 Tris(2-aminoethyl)amine 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-  
 propanediamine 6066-82-6, N-Hydroxysuccinimide 7209-38-3,  
 1,4-Bis(3-aminopropyl)piperazine 9002-89-5,  
 Polyvinyl alcohol 10389-65-8 13551-09-2  
 25104-18-1, Poly(L-lysine 25619-78-7, Poly(L-tyrosine)  
 25667-16-7 26742-84-7, Poly(vinyl phenyl ketone)  
 38000-06-5, Poly(L-lysine) 52328-05-9, O-Methylisourea hydrogen  
 sulfate 58632-95-4, 2-tert-Butoxycarbonyloxyimino)-2-  
 phenylacetoneitrile 59269-51-1, Polyvinylphenol 289888-16-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (intravascular delivery of non-viral nucleic acid)  
 IT 60129-38-6P 109970-44-7P 210292-23-2P 289888-04-6P  
 289888-06-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (intravascular delivery of non-viral nucleic acid)

L74 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:143697 HCAPLUS

DOCUMENT NUMBER: 134:180034

TITLE: Water-thinned compositions with good miscibility  
 and solvent-resistant aqueous coatings and those  
 for ink-jet printing paper using the  
 compositions

INVENTOR(S): Tanimoto, Seiji

PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001055479	A	20010227	JP 1999-233674	199908 20
JP 4053192	B2	20080227	JP 1999-233674	199908 20

PRIORITY APPLN. INFO.: <--

AB The coatings for ink-jet printing receptor comprise water-thinned  
 compns. composed of (A) aqueous polyurethane emulsions prepared by  
 reaction of NCO-having urethane prepolymers with primary OH- and/or  
 acetoacetyl-having vinyl alc. polymers and amino- or OH-having  
 low-mol.-weight compds., (B) vinyl alc. polymers, and (C)  
 polyamide-epichlorohydrin resins, epoxy compds., aldehydes  
 , and/or isocyanates as waterproofing agents. Thus, a composition containing  
 (A) 50 parts polyurethane emulsion [prepared from urethane prepolymers  
 [obtained by reaction of adipic acid-3-methyl-1,5-pentanediol  
 copolymer diol, IPDI, and 2,2-bis(hydroxymethyl)propionic acid],

amino-containing vinyl alc. polymer (obtained by reaction of allyl glycidyl ether-vinyl acetate copolymer with 2-aminothiophenol and saponification), diethylenetriamine, and isophorone diamine], (B) 100 parts amino-containing vinyl alc. polymer, and (C) 10 parts Epiol E 100 showed good storage stability, and water and solvent resistance when applied on ink-jet printing sheets.

IT 326603-70-7P, Poly(vinyl alcohol

) acetoacetyl ester, polymer with adipic acid, 3-methyl-1,5-pentanediol, IPDI, 2,2-bis(hydroxymethyl)propionic acid and diethylenetriamine

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

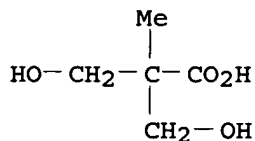
RN 326603-70-7 HCAPLUS

CN Hexanedioic acid, polymer with N-(2-aminoethyl)-1,2-ethanediamine, ethenol homopolymer 3-oxobutanoate, 3-hydroxy-2-(hydroxymethyl)-2-methylpropanoic acid, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 4767-03-7

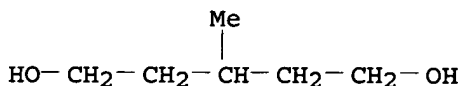
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CM 2

CRN 4457-71-0

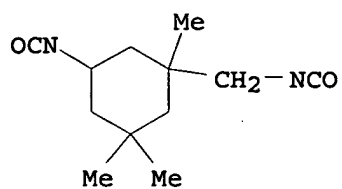
CMF C6 H14 O2



CM 3

CRN 4098-71-9

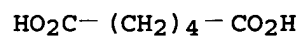
CMF C12 H18 N2 O2



CM 4

CRN 124-04-9

CMF C6 H10 O4



CM 5

CRN 111-40-0

CMF C4 H13 N3



CM 6

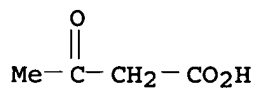
CRN 39290-68-1

CMF C4 H6 O3 . x (C2 H4 O)x

CM 7

CRN 541-50-4

CMF C4 H6 O3



CM 8

CRN 9002-89-5

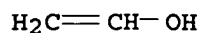
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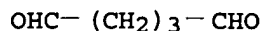
CM 9

CRN 557-75-5

CMF C2 H4 O



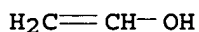
IT 111-30-8, Glutaraldehyde  
 RL: PRP (Properties); TEM (Technical or engineered material use);  
 USES (Uses)  
 (water-thinned compns. with good miscibility and solvent and  
 water resistance for coatings of ink-jet printing sheets)  
 RN 111-30-8 HCAPLUS  
 CN Pentanedial (CA INDEX NAME)



IT 9002-89-5D, Poly(vinyl alcohol  
 ), amino-, acetoacetyl-, or ethylene-containing  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (water-thinned compns. with good miscibility and solvent and  
 water resistance for coatings of ink-jet printing sheets)  
 RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5  
 CMF C2 H4 O



IC ICM C08L029-04  
 ICS C08L029-04; C08K005-07; C08L063-00; C08L075-04; C08L077-06;  
 C09D005-02; C09D007-12; C09D129-04; C09D175-12  
 CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 43  
 IT 60-24-2DP, 2-Mercaptoethanol, reaction products with allyl glycidyl  
 ether-vinyl acetate copolymer, polymers with polyols,  
 polyisocyanates, and polyamines 111-40-0DP, Diethylenetriamine,  
 polymers with vinyl acetate polymers, polyols, polyisocyanates, and  
 polyamines 124-04-9DP, Adipic acid, polymers with vinyl acetate  
 polymers, polyols, polyisocyanates, and polyamines 2855-13-2DP,  
 Isophoronediamine, polymers with vinyl acetate polymers, polyols,  
 polyisocyanates, and polyamines 4098-71-9DP, IPDI, polymers with  
 vinyl acetate polymers, polyols, and polyamines 4457-71-0DP,  
 3-Methyl-1,5-pentanediol, polymers with adipic acid, vinyl acetate  
 polymers, polyols, polyisocyanates, and polyamines 4767-03-7DP,  
 2,2-Bis(hydroxymethyl)propionic acid, polymers with vinyl acetate  
 polymers, polyols, polyisocyanates, and polyamines 31048-51-8DP,  
 Allyl glycidyl ether-vinyl acetate copolymer, reaction products with  
 2-mercaptoethanol, polymers with polyols, polyisocyanates, and  
 polyamines 299179-03-6DP, Allyl glycidyl ether-vinyl  
 acetate-2-aminothiophenol copolymer, saponified, polymers with polyols,  
 polyisocyanates, and polyamines 326603-70-7P, Poly  
 (vinyl alcohol) acetoacetyl ester, polymer with  
 adipic acid, 3-methyl-1,5-pentanediol, IPDI, 2,2-  
 bis(hydroxymethyl)propionic acid and diethylenetriamine  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
 (Properties); TEM (Technical or engineered material use); PREP



(Preparation); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

IT 111-30-8, Glutaraldehyde 25212-19-5, WS 535

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

IT 9002-89-5D, Poly(vinyl alcohol

), amino-, acetoacetyl-, or ethylene-containing

RL: TEM (Technical or engineered material use); USES (Uses)

(water-thinned compns. with good miscibility and solvent and water resistance for coatings of ink-jet printing sheets)

L74 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:790140 HCAPLUS

DOCUMENT NUMBER: 133:339981

TITLE: Lotonized tissue products containing a pH balance compound for the skin

INVENTOR(S): Luu, Phuong V.; Oriaran, Philips T.; White, David W.; Awofeso, Anthony O.; Schroeder, Gary L.; Fredericks, Richard E.

PATENT ASSIGNEE(S): Fort James Corporation, USA

SOURCE: Eur. Pat. Appl., 7 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

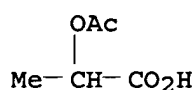
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1050297	A2	20001108	EP 2000-109038	20000427
EP 1050297	A3	20001115		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6352700	B1	20020305	US 1999-303660	19990503
CA 2306594	A1	20001103	CA 2000-2306594	20000425
PRIORITY APPLN. INFO.: US 1999-303660 A 19990503				

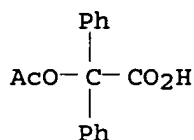
AB A substrate treated with a lotion including a skin pH balancing compound and a base lotion. The pH balancing compound is preferably an organic acid, such as an alpha-hydroxy acid, an alpha-dihydroxy acid, or a beta-hydroxy acid, a combination of an organic acid and a salt of an organic acid, or a buffer combination, such as combinations of citric acid and disodium phosphate, or disodium citrate and sodium hydroxide. The preferred lotion has the effect of maintaining the skin acid mantle while making the treated substrate, preferably

tissue, towel or napkin, optionally wet-strengthened, wipe or nonwoven material, feel smooth, lubricious and nongreasy. The skin care benefits of the lotionized substrate are expressed whether the product is used dry or prewetted with water. A lotion containing C12-15 alkyl benzoate (Finsolv TN) 35, cetearyl alc. (Crodacol CS 50) 63, and glycolic acid 2 % was formulated, and applied on one-ply tissue paper to obtain a lotionized tissue product.

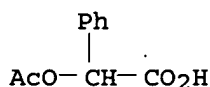
IT 535-17-1, Acetyl lactic acid 3808-00-2, O-Acetyl  
benzilic acid 5438-68-6, O-Acetyl mandelic acid  
13831-30-6, Acetyl glycolic acid  
RL: BUU (Biological use, unclassified); BIOL (Biological study);  
USES (Uses)  
(lotionized products containing skin pH balancing compds.)  
RN 535-17-1 HCAPLUS  
CN Propanoic acid, 2-(acetyloxy)- (CA INDEX NAME)



RN 3808-00-2 HCAPLUS  
CN Benzeneacetic acid,  $\alpha$ -(acetyloxy)- $\alpha$ -phenyl- (CA INDEX NAME)



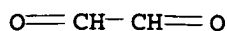
RN 5438-68-6 HCAPLUS  
CN Benzeneacetic acid,  $\alpha$ -(acetyloxy)- (CA INDEX NAME)



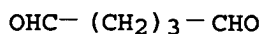
RN 13831-30-6 HCAPLUS  
CN Acetic acid, 2-(acetyloxy)- (CA INDEX NAME)



IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde  
9002-89-5, Polyvinyl alcohol  
RL: BUU (Biological use, unclassified); BIOL (Biological study);  
USES (Uses)  
(lotionized web products containing skin pH balancing compds. and wet strength agents)  
RN 107-22-2 HCAPLUS  
CN Ethanedial (CA INDEX NAME)



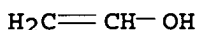
RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)



RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5  
CMF C2 H4 O



IC ICM A61K007-50  
CC 62-4 (Essential Oils and Cosmetics)  
Section cross-reference(s): 63  
IT Polymers, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study);  
USES (Uses)  
(aldehyde-containing; lotionized web products containing skin  
pH balancing compds. and wet strength agents)  
IT Aminoplasts  
Dialdehydes  
RL: BUU (Biological use, unclassified); BIOL (Biological study);  
USES (Uses)  
(lotionized web products containing skin pH balancing compds. and wet  
strength agents)  
IT Alcohols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study);  
USES (Uses)  
(polyhydric, aldehyde-containing; lotionized web products  
containing skin pH balancing compds. and wet strength agents)  
IT 50-21-5, Lactic acid, biological studies 69-72-7, Salicylic acid,  
biological studies 76-93-7, Benzilic acid, biological studies  
77-92-9, Citric acid, biological studies 79-14-1, Glycolic acid,  
biological studies 87-69-4, Tartaric acid, biological studies  
110-44-1, Sorbic acid 127-17-3, Pyruvic acid, biological studies  
144-33-2, Disodium citrate 526-95-4, Gluconic acid  
535-17-1, Acetyl lactic acid 594-61-6,  $\alpha$ -Hydroxy  
isobutyric acid 1310-73-2, Sodium hydroxide, biological studies  
3808-00-2, O-Acetyl benzilic acid 5438-68-6,  
O-Acetyl mandelic acid 6915-15-7, Malic acid 7558-79-4, Disodium  
phosphate 13831-30-6, Acetyl glycolic acid 68936-95-8,  
Glucate SS 72175-39-4, Glucamate SSE-20 74565-11-0, Finsolv TN  
RL: BUU (Biological use, unclassified); BIOL (Biological study);  
USES (Uses)  
(lotionized products containing skin pH balancing compds.)  
IT 57-13-6D, Urea, derivs., biological studies 106-89-8D,  
Epichlorohydrin, polyamides 107-22-2, Glyoxal  
111-30-8, Glutaraldehyde 9002-89-5,  
Polyvinyl alcohol 9002-98-6 9003-05-8D,

Polyacrylamide, glyoxalated 9003-08-1 9005-25-8D, Starch, derivs., aldehyde-containing cationic starch, biological studies 9011-05-6, Formaldehyde-urea copolymer  
 RL: BUU (Biological use, unclassified); BIOL (Biological study);  
 USES (Uses)

(lotionized web products containing skin pH balancing compds. and wet strength agents)

L74 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:608924 HCAPLUS  
 DOCUMENT NUMBER: 133:203820  
 TITLE: Intravascular delivery of non-viral nucleic acid  
 INVENTOR(S): Wolff, Jon A.; Monahan, Sean D.; Hagstrom, James E.; Slattum, Paul M.; Budker, Vladimir G.; Rozema, David B.  
 PATENT ASSIGNEE(S): Mirus Corp., USA  
 SOURCE: PCT Int. Appl., 38 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 49  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000050617	A1	20000831	WO 2000-US4521	20000222

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W: JP  
 RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
 EP 1161547 A1 20011212 EP 2000-911912 20000222

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI  
 PRIORITY APPLN. INFO.: US 1999-121730P P 19990226

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US 1999-146564P P 19990730

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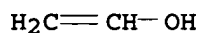
WO 2000-US4521 W 20000222

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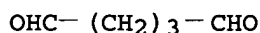
AB Disclosed is a process for transfecting genetic material into a mammalian cell to alter endogenous properties of the cell. The process comprises designing a polynucleotide for transfection. Then the polynucleotide is inserted into a mammalian vessel such as a tail vein or artery. Prior to insertion, subsequent to insertion, or concurrent with insertion the permeability of the vessel is increased thereby the genetic material is delivered to the parenchymal cell altering endogenous properties of the cell. The naked polynucleotide is complexed prior to delivery with amphipathic

comps., polymers, or other nonviral vectors. Syntheses are described for the preparation of several activated disulfide-containing co-monomers and of pH-cleavable polymers for intracellular compartment release.

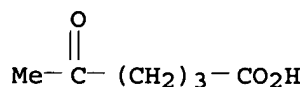
IT 9002-89-5DP, Polyvinyl alcohol, reaction products with 5-oxohexanoic acid  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)  
  
CM 1  
  
CRN 557-75-5  
CMF C2 H4 O



IT 111-30-8, Pentanedial 3128-06-1, 4-Acetylbutyric acid 9002-89-5, Polyvinyl alcohol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)  
RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)



RN 3128-06-1 HCAPLUS  
CN Hexanoic acid, 5-oxo- (CA INDEX NAME)



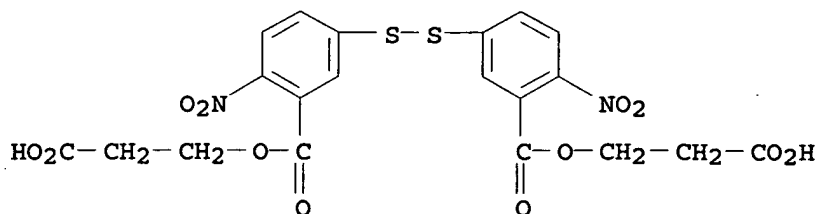
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)  
  
CM 1  
  
CRN 557-75-5  
CMF C2 H4 O



IT 289888-04-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(chemical synthesis of polymers for DNA complexation; intravascular

delivery of non-viral nucleic acid)

RN 289888-04-6 HCAPLUS  
 CN Benzoic acid, 3,3'-dithiobis[6-nitro-, bis(2-carboxyethyl) ester  
 (9CI) (CA INDEX NAME)



IC ICM C12N015-85  
 ICS A61K009-127; A61K048-00; C07H021-04  
 CC 3-2 (Biochemical Genetics)  
 Section cross-reference(s): 35  
 IT **9002-89-5DP, Polyvinyl alcohol**, reaction  
 products with 5-oxohexanoic acid 25104-18-1DP, Poly(L-lysine),  
 reaction products with citraconic anhydride or dimethylmaleic  
 anhydride 25619-78-7DP, Poly(L-tyrosine), reaction products with  
 citraconic anhydride 25667-16-7DP, reaction products with  
 citraconic anhydride 26742-84-7DP, Poly(vinyl phenyl  
**ketone**), reaction products with glycerol or with glycerol  
 and succinic anhydride 38000-06-5DP, Poly(L-lysine), reaction  
 products with citraconic anhydride or dimethylmaleic anhydride  
 59269-51-1DP, Polyvinylphenol, reaction products with citraconic  
 anhydride 209517-47-5P 289888-07-9P 289888-08-0P  
 289888-09-1P 289888-10-4P 289888-11-5P 289888-12-6P  
 289888-14-8P 289888-15-9P 289888-17-1P 289888-18-2P  
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);  
 THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);  
 USES (Uses)  
 (chemical synthesis of polymers for DNA complexation; intravascular  
 delivery of non-viral nucleic acid)  
 IT 56-81-5, 1,2,3-Propanetriol, reactions 56-89-3, L-Cystine,  
 reactions 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 105-83-9  
 109-78-4, 3-Hydroxypropionitrile 111-30-8, Pentanedial  
 112-57-2, Tetraethylenepentamine 616-02-4, Citraconic anhydride  
 766-39-2, 2,3-Dimethylmaleic anhydride **3128-06-1**,  
 4-Acetylbutyric acid 4067-16-7, Pentaethylenehexamine 4097-89-6,  
 Tris(2-aminoethyl)amine 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-  
 propanediamine 6066-82-6, N-Hydroxysuccinimide 7209-38-3,  
 1,4-Bis(3-aminopropyl)piperazine **9002-89-5**,  
**Polyvinyl alcohol** 10389-65-8 13551-09-2  
 25104-18-1, Poly(L-lysine 25619-78-7, Poly(L-tyrosine).  
 25667-16-7 26742-84-7, Poly(vinyl phenyl **ketone**)  
 38000-06-5, Poly(L-lysine) 52328-05-9, O-Methylisourea hydrogen  
 sulfate 58632-95-4, 2-tert-Butoxycarbonyloxymino)-2-..  
 phenylacetonitrile 59269-51-1, Polyvinylphenol 289888-16-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (chemical synthesis of polymers for DNA complexation; intravascular  
 delivery of non-viral nucleic acid)  
 IT 60129-38-6P 109970-44-7P 210292-23-2P **289888-04-6P**  
 289888-06-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)

(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L74 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:183812 HCAPLUS

DOCUMENT NUMBER: 130:259561

TITLE: Heat-sensitive recording material for overhead projector

INVENTOR(S): Oga, Kunihiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 11070736	A	19990316	JP 1997-234405	199708 29

PRIORITY APPLN. INFO.:

<--  
JP 1997-234405

199708  
29

AB The heat-sensitive recording material has a heat-sensitive layer and a protective layer on a support, wherein the heat-sensitive layer contains acetoacetylated polyvinyl alc. and the protective layer contains a layer-hardening agent chosen from diol or aldehyde. The recording material provides the excellent light-passing image concentration without detracting printing characteristics and the moisture-resistance of the printed image.

IT 39290-68-1

RL: TEM (Technical or engineered material use); USES (Uses)  
(Z 100, Z 200, Z 210; heat-sensitive recording material)

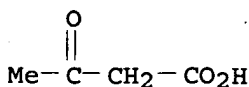
RN 39290-68-1 HCAPLUS

CN Ethanol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

CMF (C2 H4 O)x

CCI PMS

CM 3

CRN 557-75-5

CMF C2 H4 O

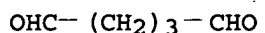


IT 111-30-8, Glutaraldehyde

RL: TEM (Technical or engineered material use); USES (Uses)  
 (layer-hardening agent for heat-sensitive recording material)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



IC ICM B41M005-26

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)

ST heat sensitive recording material overhead projector; layer  
 hardening agent polyvinyl alc

IT 39290-68-1

RL: TEM (Technical or engineered material use); USES (Uses)  
 (Z 100, Z 200, Z 210; heat-sensitive recording material)

IT 111-30-8, Glutaraldehyde 32909-97-0

RL: TEM (Technical or engineered material use); USES (Uses)  
 (layer-hardening agent for heat-sensitive recording material)

L74 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:110077 HCAPLUS

DOCUMENT NUMBER: 124:249168

ORIGINAL REFERENCE NO.: 124:45807a,45810a

TITLE: Fiber-optic sensor with a dye-modified chitosan/  
 poly(vinyl alcohol)

AUTHOR(S): cladding for the determination of organic acids  
 Kurauchi, Yoshiaki; Ogata, Tohru; Egashira,  
 Naoyoshi; Ohga, Kazuya

CORPORATE SOURCE: Dep. of Applied Chemistry, Oita Univ., Oita,  
 870-11, Japan

SOURCE: Analytical Sciences (1996), 12(1),  
 55-9

CODEN: ANSCEN; ISSN: 0910-6340

PUBLISHER: Japan Society for Analytical Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

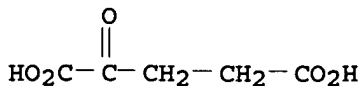
AB Organic acids in aqueous solution were determined with a fiber-optic sensor  
 having

a chitosan/poly(vinyl alc.) cladding.

Interference from ethanol could be reduced by controlling the  
 crosslinking of the cladding with glutaraldehyde and by  
 modifying the cladding with 5',5''-dibromopyrogallolsulfonphthalein.  
 The response time for 5 volume/volume% acetic acid was within 1 min and  
 the relative standard deviation was .apprx.2% for 10 successive  
 measurements. Coating of the cladding with an amorphous  
 fluoropolymer increased its durability and removed interferences



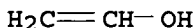
from inorg. acids and nonvolatile compds.  
 IT 328-50-7  
 RL: ANT (Analyte); ANST (Analytical study)  
 (fiber-optic sensor with dye-modified chitosan/poly(  
 vinyl alc.) cladding for determination of organic acids)  
 RN 328-50-7 HCAPLUS  
 CN Pentanedioic acid, 2-oxo- (CA INDEX NAME)



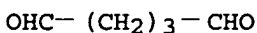
IT 9002-89-5, Poly(vinyl alcohol)  
 RL: ARU (Analytical role, unclassified); DEV (Device component use);  
 ANST (Analytical study); USES (Uses)  
 (fiber-optic sensor with dye-modified chitosan/poly(  
 vinyl alc.) cladding for determination of organic acids)  
 RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5  
 CMF C2 H4 O



IT 111-30-8, Glutaraldehyde  
 RL: ARU (Analytical role, unclassified); DEV (Device component use);  
 ANST (Analytical study); USES (Uses)  
 (for preparation of fiber-optic sensor with dye-modified chitosan/  
 poly(vinyl alc.) cladding for determination  
 of organic acids)  
 RN 111-30-8 HCAPLUS  
 CN Pentanedial (CA INDEX NAME)



CC 80-2 (Organic Analytical Chemistry)  
 IT Carboxylic acids, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (fiber-optic sensor with dye-modified chitosan/poly(  
 vinyl alc.) cladding for determination of organic acids)  
 IT Sensors  
 (fiber-optic, fiber-optic sensor with dye-modified chitosan/  
 poly(vinyl alc.) cladding for determination  
 of organic acids)  
 IT 64-19-7, Acetic acid, analysis 65-85-0, Benzoic acid, analysis  
 77-92-9, Citric acid, analysis 79-14-1, HydroxyAcetic acid,  
 analysis 88-99-3, Phthalic acid, analysis 103-82-2, Phenylacetic  
 acid, analysis 144-62-7, Oxalic acid, analysis 298-12-4  
 328-50-7 528-44-9, 1,2,4-Benzenetricarboxylic acid  
 759-05-7 1113-60-6  
 RL: ANT (Analyte); ANST (Analytical study)

(fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids).

IT 9002-89-5, Poly(vinyl alcohol)  
9012-76-4, Chitosan  
RL: ARU (Analytical role, unclassified); DEV (Device component use);  
ANST (Analytical study); USES (Uses)  
(fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids)

IT 111-30-8, Glutaraldehyde  
RL: ARU (Analytical role, unclassified); DEV (Device component use);  
ANST (Analytical study); USES (Uses)  
(for preparation of fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids)

IT 115-41-3, Pyrocatechol violet 149-45-1, Tiron 5182-30-9, Sodium  
1,3,6-naphthalenetrisulfonate 16574-43-9 27928-00-3,  
8-Hydroxy-1,3,6-pyrenetrisulfonic acid 37626-13-4, Teflon af  
84100-31-2  
RL: ARU (Analytical role, unclassified); DEV (Device component use);  
ANST (Analytical study); USES (Uses)  
(in fiber-optic sensor with dye-modified chitosan/poly(vinyl alc.) cladding for determination of organic acids)

L74 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1995:938552 HCAPLUS

DOCUMENT NUMBER: 123:325834

ORIGINAL REFERENCE NO.: 123:58183a,58186a

TITLE: Thermal recording material with acetoacetylated  
poly(vinyl alcohol)  
protective layer

INVENTOR(S): Mando, Ritsuo

PATENT ASSIGNEE(S): Shinoji Seishi Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07232477	A	19950905	JP 1994-28232	19940225

PRIORITY APPLN. INFO.:

JP 1994-28232

19940225

AB The recording material consists of a substrate successively coated with a thermal recording layer and a protective layer containing a pigment, Al(OH)<sub>3</sub>, and acetoacetylated poly(vinyl alc.) which is obtained by applying a resin solution of pH 5-8 and drying. The recording layer may contain an aldehyde for good water resistance. The material is useful for labels in point-of-sales system.

IT 39290-68-1, Gohsefimer Z 200

RL: DEV (Device component use); USES (Uses)

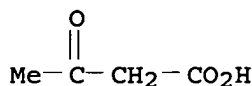
(thermal recording material with acetoacetylated poly(

vinyl alc.) protective layer containing Al  
hydroxide)

RN 39290-68-1 HCAPLUS  
CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4  
CMF C4 H6 O3

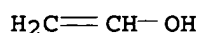


CM 2

CRN 9002-89-5  
CMF (C2 H4 O)x  
CCI PMS

CM 3

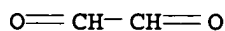
CRN 557-75-5  
CMF C2 H4 O



IT 107-22-2, Glyoxal  
RL: DEV (Device component use); MOA (Modifier or additive use); USES  
(Uses)

(thermal recording material with acetoacetylated poly(  
vinyl alc.) protective layer containing Al  
hydroxide)

RN 107-22-2 HCAPLUS  
CN Ethanedial (CA INDEX NAME)



IC ICM B41M005-26  
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

ST thermal recording material protective resin; water resistance  
aldehyde thermal recording; acetoacetylated  
polyvinyl alc thermal recording

IT Printing, nonimpact  
(thermal, thermal recording material with acetoacetylated  
poly(vinyl alc.) protective layer  
containing Al hydroxide)

IT 21645-51-2, Aluminum hydroxide, uses 39290-68-1,  
Gohsefimer Z 200

RL: DEV (Device component use); USES (Uses)  
(thermal recording material with acetoacetylated poly(  
vinyl alc.) protective layer containing Al

hydroxide)  
 IT 107-22-2, Glyoxal  
 RL: DEV (Device component use); MOA (Modifier or additive use); USES  
 (Uses)  
 (thermal recording material with acetoacetylated poly(  
 vinyl alc.) protective layer containing Al  
 hydroxide)

L74 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1995:261475 HCAPLUS  
 DOCUMENT NUMBER: 122:292769  
 ORIGINAL REFERENCE NO.: 122:53367a,53370a  
 TITLE: Two-component water-resistant fast-curing  
 adhesives  
 INVENTOR(S): Shima, Shuji; Kuwako, Nobuteru.  
 PATENT ASSIGNEE(S): Koyo Sangyo Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06256748	A	19940913	JP 1993-72887	199303 09

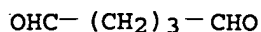
PRIORITY APPLN. INFO.: JP 1993-72887  
 199303  
 09

AB The title adhesives, useful for bonding wood, inorg. materials,  
 paper, etc., comprise a component containing isocyanates and aqueous  
 acetoacetyl group-containing polymer solns. and/or emulsions and a  
 component containing aqueous solns. or dispersions containing hydrazines,  
 aldehydes, and/or polyethylenimine as well as glycidylamino  
 group-containing epoxy resins. Applying a solution containing Gohsefimer Z  
 200, butadiene-styrene copolymer latex, CaCO<sub>3</sub>, and  
 diisocyanatodiphenylmethane on a wood surface, applying a solution  
 containing carbodihydrazide, TETRD X, isooctyl acetate, and a lubricant  
 on another wood surface, and pressing the coated surfaces together  
 for 72 h gave shear strength 200 kg/cm<sup>2</sup> initially and 85 kg/cm<sup>2</sup>  
 after contact with boiling H<sub>2</sub>O.

IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde  
 39290-68-1, Poly(vinyl alcohol  
 ) acetoacetate  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical  
 or engineered material use); USES (Uses)  
 (in two-component water-resistant adhesives containing glycidylamine  
 resin)  
 RN 107-22-2 HCAPLUS  
 CN Ethanediol (CA INDEX NAME)

O=CH-CH=O

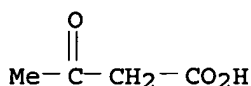
RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)



RN 39290-68-1 HCAPLUS  
CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4  
CMF C4 H6 O3

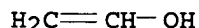


CM 2

CRN 9002-89-5  
CMF (C2 H4 O)x  
CCI PMS

CM 3

CRN 557-75-5  
CMF C2 H4 O



IC ICM C09J175-04  
ICS C09J175-04  
ICA C08G018-58; C08G018-83  
CC 38-3 (Plastics Fabrication and Uses)  
IT 101-68-8 107-22-2, Glyoxal 111-30-8,  
Glutaraldehyde 497-18-7, Carbodihydrazide 1071-93-8,  
Adipic dihydrazide 9002-98-6, Polyethylenimine 39290-68-1  
, Poly(vinyl alcohol) acetoacetate  
163206-51-7, AD 100H 163206-52-8, AD 100R  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical  
or engineered material use); USES (Uses)  
(in two-component water-resistant adhesives containing glycidylamine  
resin)

L74 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1993:23861 HCAPLUS  
DOCUMENT NUMBER: 118:23861  
ORIGINAL REFERENCE NO.: 118:4443a,4446a  
TITLE: Anticorrosive dampening water compositions for  
lithographic printing apparatus  
INVENTOR(S): Matsumoto, Hiroshi; Kunichika, Kenji; Uchida,  
Toshio  
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Can. Pat. Appl., 31 pp.  
CODEN: CPXXEB  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2053554	A1	19920426	CA 1991-2053554	199110 16
US 5165344	A	19921124	US 1991-780202	199110 22
PRIORITY APPLN. INFO.:				199010 25

OTHER SOURCE(S): MARPAT 118:23861

AB Title comps. contain hydrophilic film-forming polymers, pH buffers, and benzimidazole derivs. Thus, an aqueous composition containing gum arabic 0.015, Mg(NO<sub>3</sub>)<sub>2</sub> 0.3, H<sub>3</sub>PO<sub>4</sub> 0.13, monoammonium citrate 0.13, benzimidazole 0.003, and iso-PrOH 10% was adjusted with KOH to pH 5.0-5.5 and showed good anticorrosion on Cu, brass, steel, and (ni-plated) cast iron. Lithog. printing with the use of the composition as dampening water gave a ≥104 smudge-resistant copies and no contamination to the metering rolls.

IT 107-22-2D, Ethanedia, reaction products with cellulose derivs. 9002-89-5, Poly(vinyl alcohol)

RL: USES (Uses)

(dampening water comps., benzimidazole derivative-containing, anticorrosion, for lithog. plates)

RN 107-22-2 HCAPLUS

CN Ethanedia (CA INDEX NAME)

O=CH-CH=O

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

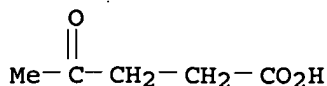
H<sub>2</sub>C=CH-OH

IT 123-76-2, Levulinic acid

RL: USES (Uses)

(pH buffering agent, dampening water comps. containing, with benzimidazoles, anticorrosive, for lithog. plates)

RN 123-76-2 HCAPLUS  
 CN Pentanoic acid, 4-oxo- (CA INDEX NAME)



IC ICM C23F011-14  
 ICS B41N003-08  
 CC 42-10 (Coatings, Inks, and Related Products)  
 IT 50-00-0, **Formaldehyde**, uses 51-17-2, Benzimidazole  
 91-22-5, Quinoline, uses 95-14-7, 1H-Benzotriazole 110-86-1,  
 Pyridine, uses 113-00-8, Guanidine 288-32-4, Imidazole, uses  
 288-42-6, Oxazole 583-39-1, 2-Mercaptobenzimidazole 1003-07-2,  
 4-Isotiazolin-3-one 4418-26-2, Sodium dehydroacetate  
 11084-05-2, Oxazine 37052-78-1, 5-Methoxy-2-mercaptobenzimidazole  
 37306-44-8, Triazole 53918-03-9, Sodium 2-mercaptobenzimidazole-5-  
 sulfonate  
 RL: USES (Uses)  
 (dampening water compns. containing, anticorrosive, for lithog.  
 plates)  
 IT 107-22-2D, Ethanedial, reaction products with cellulose  
 derivs. 9000-01-5, Gum arabic 9002-89-5, Poly(  
**vinyl alcohol**) 9003-01-4, Poly(acrylic acid)  
 9003-05-8, Polyacrylamide 9003-39-8, Poly(vinyl pyrrolidone)  
 9004-32-4 9004-34-6D, Cellulose, derivs., reaction products with  
 glyoxal 9004-42-6, Carboxyethyl cellulose 9004-53-9, Dextrin  
 9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl  
 cellulose 9004-65-3 9004-67-5, Methyl cellulose 9005-25-8D,  
 Starch, carboxymethylated or phosphated or octenylsuccinylated  
 9005-32-7D, Alginic acid, salt 9011-07-8, Maleic anhydride-vinyl  
 acetate copolymer 9011-16-9, Maleic anhydridemethyl vinyl ether  
 copolymer 25322-68-3 50851-57-5, Poly(styrenesulfonic acid)  
 RL: USES (Uses)  
 (dampening water compns., benzimidazole derivative-containing,  
 anticorrosion, for lithog. plates)  
 IT 121-57-3, Sulfanilic acid 123-76-2, Levulinic acid  
 141-82-2, Propanedioic acid, miscellaneous 144-62-7, Oxalic acid,  
 miscellaneous 526-95-4, Gluconic acid 4450-94-6, Monoammonium  
 citrate 6915-15-7, Malic acid 7664-38-2, Phosphoric acid,  
 miscellaneous 7664-93-9, Sulfuric acid, miscellaneous 7697-37-2,  
 Nitric acid, miscellaneous 10343-62-1, Metaphosphoric acid  
 10377-60-3, Magnesium nitrate 13598-36-2D, Phosphonic acid, organic  
 derivs. 14798-03-9D, Ammonium, salts  
 RL: USES (Uses)  
 (pH buffering agent, dampening water compns. containing, with  
 benzimidazoles, anticorrosive, for lithog. plates)

L74 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1992:422477 HCAPLUS  
 DOCUMENT NUMBER: 117:22477  
 ORIGINAL REFERENCE NO.: 117:3981a,3984a  
 TITLE: Immobilization of biocatalysts using crosslinked  
 acetoacetyl poly(vinyl  
**alcohol**) hydrogels  
 AUTHOR(S): Kondo, Masao; Mannen, Takeo; Shimokawa, Wataru;  
 Fukumori, Katsuaki  
 CORPORATE SOURCE: Food Res. Inst., Aichi Prefect. Gov., Nagoya,

SOURCE: 451, Japan  
Hakko Kogaku Kaishi (1991), 69(5),  
337-44  
CODEN: HKOKDE; ISSN: 0385-6151

DOCUMENT TYPE: Journal

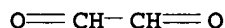
LANGUAGE: Japanese

AB Acetoacetyl polyvinyl alc. solution formed  
crosslinked hydrogels in various gelating times at appropriate pH,  
when it was treated with bifunctional gelating agents such as  
aldehyde and hydrazide. The appearance of the hydrogels was  
similar to calcium alginate gels, and they were stable under  
conditions which cause decomposition of the latter. The hydrogels were  
useful as immobilization supports for microorganisms and enzymes.  
The present paper is concerned with the gelating condition of  
acetoacetyl polyvinyl alc. and the  
immobilization method using the gels. Acetobacter aceti cells and  
alc. dehydrogenase were tested as immobilized biocatalysts.

IT 107-22-2, Glyoxal 111-30-8, Pentanedial  
RL: USES (Uses)  
(acetoacetyl poly(vinyl alc.)  
crosslinked hydrogels formation by)

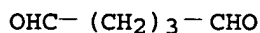
RN 107-22-2 HCAPLUS

CN Ethanedial (CA INDEX NAME)



RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)



IT 39290-68-1  
RL: USES (Uses)  
(crosslinked hydrogels, enzymes and microorganisms immobilization  
on and stability of)

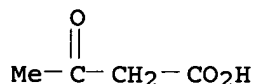
RN 39290-68-1 HCAPLUS

CN Ethenol, homopolymer, 3-oxobutanoate (CA INDEX NAME)

CM 1

CRN 541-50-4

CMF C4 H6 O3



CM 2

CRN 9002-89-5

CMF (C2 H4 O)x

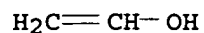
CCI PMS



CM 3

CRN 557-75-5

CMF C2 H4 O



- CC 7-7 (Enzymes)  
Section cross-reference(s): 9, 16
- ST immobilization biocatalyst acetoacetyl poly vinyl alc; microorganism immobilization acetoacetyl poly vinyl alc; Acetobacter immobilization acetoacetyl poly vinyl alc; immobilized enzyme acetoacetyl poly vinyl alc
- IT Acetobacter aceti  
Microorganism  
(immobilization of, on acetoacetyl poly(vinyl alc.) crosslinked hydrogels)
- IT Fermentation  
(of acetate, Acetobacter aceti immobilized cells and acetoacetyl poly(vinyl alc.) crosslinked hydrogel for)
- IT Immobilization, biochemical  
(of enzymes and microorganisms, on acetoacetyl poly(vinyl alc.) crosslinked hydrogels)
- IT Enzymes  
RL: USES (Uses)  
(immobilized, on acetoacetyl poly(vinyl alc.) crosslinked hydrogels)
- IT 107-22-2, Glyoxal 111-30-8, Pentanedial 497-18-7, Carbohydrazide 1071-93-8 9047-50-1, Dialdehyde starch  
RL: USES (Uses)  
(acetoacetyl poly(vinyl alc.) crosslinked hydrogels formation by)
- IT 39290-68-1  
RL: USES (Uses)  
(crosslinked hydrogels, enzymes and microorganisms immobilization on and stability of)
- IT 64-19-7, Acetic acid, biological studies  
RL: BIOL (Biological study)  
(fermentation of, Acetobacter aceti immobilized cells and acetoacetyl poly(vinyl alc.) crosslinked hydrogels for)
- IT 9031-72-5, Alcohol dehydrogenase  
RL: PROC (Process)  
(immobilization of, on acetoacetyl poly(vinyl alc.) crosslinked hydrogels)

L74 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1952:14649 HCAPLUS  
 DOCUMENT NUMBER: 46:14649  
 ORIGINAL REFERENCE NO.: 46:2572d-i,2573a  
 TITLE: Polyvinyl alcohol  
 -1-butene-1,3-dione reaction products  
 INVENTOR(S): Jones, Giffin D.  
 PATENT ASSIGNEE(S): General Aniline & Film Corp.  
 DOCUMENT TYPE: Patent

LANGUAGE: Unavailable  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2536980		19510102	US 1947-745648	194705 02

AB Partial or complete esterification of the OH groups of polyvinyl alc. (I) with a  $\beta$ -keto acid is effected by heating a mixture of I and a diketene of the general type  $RCH_2C(:O)CR':C:O$ , where R and R' are alkyl, in a suitable inert solvent, such as formamide, N-alkyl- and dialkylformamides,  $AcNH_2$ ,  $\gamma$ -butyrolactam, caprolactam, 2-morpholone, etc., at 100-50°. Partially or completely hydrolyzed polyvinyl esters are suitable as I. Thus to I (100% hydrolyzed and having a viscosity as a 4% aqueous solution of 24 centipoises at 20°) 300 in anhydrous  $HCONMe_2$  (II) 2700 is added slowly with stirring during 1.5 hrs.  $AcCH:C:O$  108 in II 2700 at 120°, and the hot solution poured into MeOH 6400 to precipitate a partial acetoacetic ester of I (III) with 18.9% of the OH groups acylated 335 parts. Similarly are prepared the partial acetoacetic esters (IV) of I having the following percentages of OH groups esterified: 10 (V) from I (4% aqueous solution, 24 centipoises at 20°); 16.2 (VI) and 7.6 (VII) from I (4% aqueous solution, 25 centipoises at 20°); 6.8 (VIII) from I (4% aqueous solution, 51 centipoises at 20°); 10.8 (IX) from 87% hydrolyzed polyvinyl acetate (4% aqueous solution, 22 centipoises at 20°). The IV having 4.5-10% of the OH groups esterified, obtained from water-soluble I having viscosities of 15-30 centipoises at 20° are capable of forming thermoreversible gels when heated with a gelling agent such as adipohydrazide (X), and are useful as gelatin substitutes in photographic emulsions. Directions for the preparation of a photographic emulsion (XI) containing III and X are given. Paper coated with XI gives in standard photographic procedures prints having clear highlight portions, good gradation, and deep black in the shadow portions, with speeds equal or slightly higher than standard paper; the finished prints are not attacked by boiling 5 min. in  $H_2O$ . Addition of 2% X solution 1 to 5% aqueous IV solns. 25 g. causes gelation of the clear viscous solution. The variation of the m. and gelling points depends on the pH (adjusted with 25% aqueous citric acid) and is listed in the following for some IV at various pH in the order: pH, m.p., gelling point: V 2.5, 50°, 35°; 3.0, 55°, 45°; 4.0, 65°, 48°; 5.0, 70°, 46°; 6.0, 74°, 55°; VIII 2.5, 43°, 36°; 3.0, 51°, 44°; 4.0, 57°, 46°; 5.0, above 80°, -; VII 2.5, 46°, 25°; 3.0, 58°, 45°; 4.0, 66°, 58°; 5.0, above 75°, -; IX 2.5, 55°, 40°; 3.0, 58°, 47°; 4.0, 64°, 52°; 5.0, 71°, 55°; 6.0, 76°, 55°. The IV are also useful as nondiffusing color coupling components in certain color photographic processes. IV with higher acyl contents, such as VI, are valuable creaseproofing agents for textiles. The IV with a relatively high acyl content can be cast and molded and possess phys. properties similar to those of polyvinyl acetate.

IT 111-30-8, Glutaraldehyde

(and derivs.)

RN 111-30-8 HCAPLUS  
 CN Pentanedial (CA INDEX NAME)

$$\text{OHC}-(\text{CH}_2)_3-\text{CHO}$$

IT 9002-89-5, Vinyl alcohol, homopolymer  
 (and their esters, reaction products with 1-butene-1,3-dione and  
 related compds.)

RN 9002-89-5 HCAPLUS  
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5  
 CMF C2 H4 O

$$\text{H}_2\text{C}=\text{CH}-\text{OH}$$

IT 1071-46-1P, Malonic acid, ethyl ester  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 1071-46-1 HCAPLUS  
 CN Propanedioic acid, 1-ethyl ester (CA INDEX NAME)

$$\begin{array}{c} \text{O} \\ || \\ \text{EtO}-\text{C}-\text{CH}_2-\text{CO}_2\text{H} \end{array}$$

CC 10 (Organic Chemistry)  
 IT Gelatin substitutes  
 (acetoacetic acid and related compound esters with  
**polyvinyl alc.**)  
 IT Textiles  
 (creaseproofing of, **polyvinyl alcs.** acylated  
 with 1-butene-1,3-diones for)  
 IT **Aldehydes**  
 (di-)  
 IT Acetoacetic acid, esters with **polyvinyl alc.**  
 RL: PREP (Preparation)  
 IT 111-30-8, **Glutaraldehyde**  
 (and derivs.)  
 IT 691-45-2, 1-Butene-1,3-dione  
 (and related compds., reaction products with **polyvinyl**  
**alc.** and its esters)  
 IT 9002-89-5, Vinyl alcohol, homopolymer  
 (and their esters, reaction products with 1-butene-1,3-dione and  
 related compds.)  
 IT 1071-46-1P, Malonic acid, ethyl ester  
 RL: PREP (Preparation)  
 (preparation of)

=&gt;

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D L78 IBIB ABS HITSTR HITIND 1-6  
D COST

L79 44 SEA ABB=ON PLU=ON L63(3A)L69  
L80 8 SEA ABB=ON PLU=ON L79 AND (L38 OR L39)  
L81 8 SEA ABB=ON PLU=ON L80 NOT (L71 OR L72 OR L73 OR L74 OR  
L75 OR L76 OR L77 OR L78)

FILE 'HCAPLUS' ENTERED AT 16:58:09 ON 14 JUL 2008

=> d l81 ibib abs hitstr hitind 1-8

L81 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2006:513287 HCAPLUS  
DOCUMENT NUMBER: 144:498431  
TITLE: Manufacture of crosslinked polyvinyl acetal  
films, sheet polarizers comprising same films,  
and liquid crystal displays (LCDs) equipped with  
same polarizers  
INVENTOR(S): Masuko, Yoshihiro; Shimizu, Mikio; Takei,  
Atsushi; Tokunaga, Hisatsugu  
PATENT ASSIGNEE(S): Denki Kagaku Kogyo Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2006137078

A

20060601

JP 2004-328395

200411  
12

PRIORITY APPLN. INFO.:

JP 2004-328395

200411  
12

AB The crosslinked polyvinyl acetal films are manufactured by casting of organic solvent dopes containing polyvinyl acetals and crosslinking agents, wherein crosslinking is carried out until the crosslinking degree of 1-60% in a step of vaporization of the solvents in the dopes, and/or after a step of casting into films. Preferably, the crosslinking agents are selected from boric acids, boron compds. generating boric esters upon reaction with OH groups, silicon compds. generating siloxy groups upon reaction with OH groups, and blocked isocyanates. Also claimed are sheet polarizers comprising same films as protective films, and LCDs. The films show high adhesion to the polarizing films.

IT 9002-89-5DP, Poly(vinyl alcohol), cyclic acetals with acetoaldehyde, reaction products with boric acid

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(films; manufacture of crosslinked polyvinyl acetal films for protection of sheet polarizers for LCDs)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

$\text{H}_2\text{C}=\text{CH}-\text{OH}$

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38, 73

IT 75-07-0DP, Acetaldehyde, cyclic acetals with poly(vinyl alc.), reaction products with boric acid  
78-10-4DP, Tetraethoxysilane, reaction products with poly(vinyl alc.) cyclic acetoacetals 150-46-9DP, Triethoxyborane, reaction products with poly(vinyl alc.) cyclic acetoacetals 9002-89-5DP, Poly(vinyl alcohol), cyclic acetals with acetoaldehyde, reaction products with boric acid 10043-35-3DP, Boric acid, reaction products with poly(vinyl alc.) cyclic acetoacetals 118367-90-1DP, Takenate B 846N, reaction products with poly(vinyl alc.) cyclic acetoacetals

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(films; manufacture of crosslinked polyvinyl acetal films for protection of sheet polarizers for LCDs)

L81 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2001:847497 HCAPLUS  
DOCUMENT NUMBER: 135:379895  
TITLE: Lithographic formation of electrically  
conductive metal minute pattern on substrate  
INVENTOR(S): Kato, Hideto; Furihata, Tomoyoshi; Ueda, Takashi  
PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001323393	A	20011122	JP 2000-143033	200005 16
PRIORITY APPLN. INFO.: JP 2000-143033				200005 16

AB The formation involves (1) forming first resist pattern capable of supplying an acid on a substrate, (2) forming second resist layer which does not dissolve the first resist pattern and becomes insol. or slightly soluble to water or an aqueous alc. solution, (3) heating or exposing with light of an interlayer of the two resists to form the water- or alc.-insol. or -slightly soluble region of the second resist, (4) developing the second resist with water or the aqueous alc. solution to form a bilayered resists, and (5) electro- or electroless plating an elec. conductive metal to form a conductor pattern. The method enables down-sizing holes and spaces of the patterned resist to give the metal pattern of <0.4  $\mu$ m space.

IT 9002-89-5, Polyvinyl alcohol  
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(second resist component; lithog. formation of elec. conductive metal minute pattern on substrate by using bilayered resists)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

H<sub>2</sub>C=CH-OH

IC ICM C25D005-02

ICS C23C018-31; C25D007-00; G11B005-31

CC 76-14 (Electric Phenomena)

Section cross-reference(s): 74

IT 140-95-4

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinking agent for polyvinyl

acetals in second resist; lithog. formation of elec.

conductive metal minute pattern on substrate by using bilayered resists)

IT 9002-89-5, Polyvinyl alcohol

9004-65-3, Hydroxypropyl methyl cellulose

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(second resist component; lithog. formation of elec. conductive metal minute pattern on substrate by using bilayered resists)

L81 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:693390 HCAPLUS

DOCUMENT NUMBER: 135:247253

TITLE: Preparation of polyvinyl acetals as biomedical devices

INVENTOR(S): Goupil, Dennis W.; Chaouk, Hassan; Holland, Toy; Asfaw, Bruktawit T.; Goodrich, Stephen D.; Latini, Lucas

PATENT ASSIGNEE(S): Biocure, Inc., USA

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001068722	A1	20010920	WO 2001-US8008	20010313
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2402774	A1	20010920	CA 2001-2402774	20010313
AU 2001043616	A	20010924	AU 2001-43616	20010313
US 20010051670	A1	20011213	US 2001-804925	20010313
US 6652883	B2	20031125		20010313
US 20010056301	A1	20011227	US 2001-805483	20010313
US 7070809	B2	20060704		20010313
EP 1263802	A1	20021211	EP 2001-916614	20010313
EP 1263802	B1	20051123		20010313
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				

PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2003527173	T	20030916	JP 2001-567810
			20010313
AU 2001243616	B2	20051117	AU 2001-243616
			20010313
AT 310752	T	20051215	AT 2001-916614
			20010313
ES 2253360	T3	20060601	ES 2001-916614
			20010313
AT 327262	T	20060615	AT 2001-916599
			20010313
US 20030211073	A1	20031113	US 2003-465398
			20030619
US 20030223956	A1	20031204	US 2003-465497
			20030619
US 20050129656	A1	20050616	US 2005-34653
			20050113
PRIORITY APPLN. INFO.:		US 2000-188975P	P
			20000313
		US 2000-254697P	P
			20001211
		US 2001-804925	A3
			20010313
		US 2001-804963	A3
			20010313
		WO 2001-US8008	W
			20010313
		US 2003-465398	A1
			20030619

AB Hydrogel biomedical articles formed from macromers having a polymeric backbone comprise 1,2-diol and/or 1,3-diol units, such as polyvinyl alc., and pendant chains bearing crosslinkable groups and, optionally, other modifiers. Thus, Mowiol 4-88 was treated with acryamidoacetaldehyde di-Me acetate in HOAc solution to give crosslinked polymers.

IT 9002-89-5DP, Poly(vinyl alcohol), acetal derivs.

RL: DEV (Device component use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)



(crosslinked; preparation of polyvinyl acetals as biomedical devices)  
RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)  
CM 1  
CRN 557-75-5  
CMF C2 H4 O

$\text{H}_2\text{C}=\text{CH}-\text{OH}$

IC ICM C08F008-00  
ICS C08F008-30; A61L027-16; A61L027-52; A61L027-34; A61L029-04;  
A61L029-08; A61L031-04; A61L031-10; C08F290-12  
CC 63-7 (Pharmaceuticals)  
Section cross-reference(s): 9, 37  
IT **Crosslinking agents**  
(photochem.; preparation of polyvinyl acetals as  
biomedical devices)  
IT Coating materials  
**Crosslinking agents**  
Drug delivery systems  
Hydrogels  
Molecular weight distribution  
Sensors  
Viscosity  
(preparation of polyvinyl acetals as biomedical  
devices)  
IT 9002-89-5DP, Poly(vinyl alcohol  
) , acetal derivs.  
RL: DEV (Device component use); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)  
(crosslinked; preparation of polyvinyl acetals as biomedical devices)  
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR  
THIS RECORD. ALL CITATIONS AVAILABLE IN  
THE RE FORMAT

L81 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2001:254902 HCAPLUS  
DOCUMENT NUMBER: 134:281831  
TITLE: Modified vinyl acetal polymers and modifiers for  
curable polymers for electric insulating uses  
INVENTOR(S): Tanaka, Toshiyuki; Onda, Atsushi; Katayama,  
Hiroo  
PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 3  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001098027	A	20010410	JP 2000-228827	200007

28

JP 3740962  
US 6555617B2 20060201  
B1 20030429

US 2000-628321

200007  
28

US 20030130435

A1 20030710

US 2002-290515

200211  
08US 6737474  
PRIORITY APPLN. INFO.:

B2 20040518

JP 1999-214936

A

199907  
29

JP 1999-214935

A

199907  
29

JP 1999-216321

A

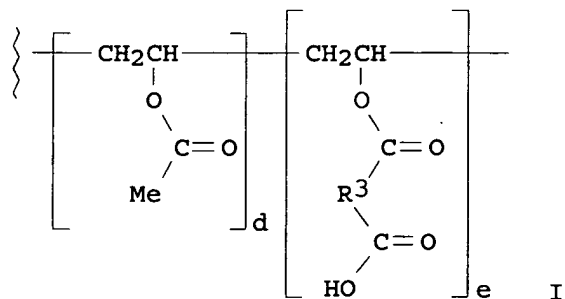
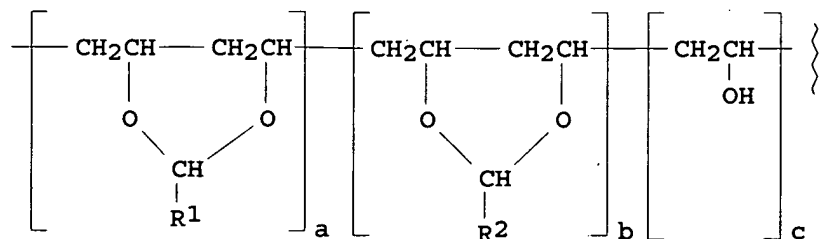
199907  
30

US 2000-628321

A1

200007  
28

GI



AB The vinyl acetal polymers mainly comprise structural repeating units I [R1 = (substituted) aryl, aralkyl- or aryl-substituted alkenyl; R2 = H, C1-10 alkyl; R3 = (substituted) C1-20 hydrocarbylene; a-e = content of each units (mol%); 0 < a ≤ 85; 0 ≤ b ≤ 80; 0 ≤ c ≤ 50; 0 ≤ d ≤ 30; 0 < e ≤ 50]. The curable polymers are useful for anisotropic

elec. conductive films and interlayer elec. insulating films. Thus, Gohsenol NL 05 (**polyvinyl alc.**) was reacted with PhCH<sub>2</sub>CHO and butylaldehyde, then reacted with phthalic anhydride to give a modified polymer. Thus, a solution containing Epikote 828, the modified polymer, and a curing catalyst was applied on a polyimide film and heated to give a film showing dielec. constant 26 MHz, tan  $\delta$  24.5 x 10<sup>-3</sup>, and good adhesion to the polyimide film.

IT 9002-89-5DP, Gohsenol NL 05, reaction products with aldehydes and carboxylic anhydride  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(crosslinking agent; modified vinyl acetal polymers for curable polymers for elec. insulators and conductive films)

RN 9002-89-5 HCAPLUS  
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5  
CMF C2 H4 O

H<sub>2</sub>C=CH-OH

IC ICM C08F116-38  
ICS C08F008-14; C08F008-46; C08F008-48; C08L029-14; C08L101-00; H01B003-42

CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37, 76

ST polyvinyl acetal modifier epoxy resin dielec film; epoxy resin crosslinking agent **polyvinyl acetal**; elec conductor anisotropic epoxy resin **polyvinyl acetal**; phenylacetoaldehyde butylaldehyde **polyvinyl alc** modifier epoxy resin

IT 66-77-3DP, 1-Naphthaldehyde, reaction products with **polyvinyl alc.** and succinic anhydride 85-44-9DP, Phthalic anhydride, reaction products with **polyvinyl acetals** 100-52-7DP, Benzaldehyde, reaction products with **polyvinyl alc.** and succinic anhydride, uses 104-53-0DP, Benzenepropanal, reaction products with **polyvinyl alc.** and succinic anhydride 108-30-5DP, Succinic anhydride, reaction products with **polyvinyl acetals** 122-78-1DP, Phenylacetaldehyde, reaction products with **polyvinyl alc.** and carboxylic anhydride 123-72-8DP, Butylaldehyde, reaction products with **polyvinyl alc.** and carboxylic anhydride 9002-89-5DP, Gohsenol NL 05, reaction products with aldehydes and carboxylic anhydride  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
(crosslinking agent; modified vinyl acetal polymers for curable polymers for elec. insulators and conductive films)

L81 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2001:252997 HCAPLUS  
DOCUMENT NUMBER: 134:282203

TITLE: Curable resin compositions with good curability and film forming properties  
 INVENTOR(S): Tanaka, Toshiyuki; Toda, Atsushi  
 PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 3  
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2001098165	A	20010410	JP 2000-228828	200007 28
US 6555617	B1	20030429	US 2000-628321	200007 28
US 20030130435	A1	20030710	US 2002-290515	200211 08
US 6737474	B2	20040518		
PRIORITY APPLN. INFO.:			JP 1999-214935	A 199907 29
			JP 1999-214936	A 199907 29
			JP 1999-216321	A 199907 30
			US 2000-628321	A1 200007 28

- AB The compns. comprise (A) curable resins, (B) curing catalysts and (C) curing agents from modified polyvinyl acetal resins having (a) acetal units derived from aromatic aldehydes, aralkyl aldehydes or/and aryl-containing alkenyl aldehydes, 0-85, (b) acetal units derived from HCHO or/and C1-10 alkyl aldehydes, 0-80, (c) unmodified vinyl alc. units, 0-50, (d) vinyl acetate units 0-30, and (e) dicarboxylic acid vinyl ester units 0-50 mol%, provided that (a+b)  $\neq$  0. Thus, mixing Gohsenol NL-05 (a polyvinyl alc.) 100 with phenylacetaldehyde 195, butylaldehyde 33, PhMe 584 and 35% HCl 13.2, heating to 58° over 1.5 h and at 58° for 5 h, cooling to 35°, adding Na acetate 18.26 dissolved in MeOH 535.6 g and working up gave a vinyl acetal resin which was esterified with phthalic anhydride, combined at 1.8 g with Epikote 828 1.2, MEK 9.0 and 1-(2-cyanoethyl)-2-ethyl-4-methylimidazole 0.036 g, coated on a Upilex R (polyimide) film and heated at 180° for 2 h to give a coat film with good adhesion.
- IT 9002-89-5DP, Gohsenol NL-05, mixed acetal derivs., esterified with dicarboxylic anhydride  
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use);

POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable resin compns. with good curability and film forming properties)

RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O

$\text{H}_2\text{C}=\text{CH}-\text{OH}$

IC ICM C08L101-00

ICS C08L029-14; C08L063-00; C09D004-02; C09D129-14; C09D163-00;  
C09J004-02; C09J129-14; C09J163-00

CC 42-9 (Coatings, Inks, and Related Products)

IT 66-77-3DP, 1-Naphthaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride 85-44-9DP, Phthalic anhydride, esters with polyvinyl mixed acetals 100-52-7DP, Benzaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride, uses 104-53-0DP, Benzenepropanal, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride 110-15-6DP, Succinic acid, esters with polyvinyl mixed acetals 110-16-7DP, Maleic acid, esters with polyvinyl mixed acetals 122-78-1DP, Phenylacetaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride 123-72-8DP, Butylaldehyde, mixed acetal derivs. with poly(vinyl alc.) and other aldehydes, esterified with dicarboxylic anhydride  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use);  
POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable resin compns. containing dicarboxylic acid-esterified mixed polyvinyl acetals with good curability and film forming properties)

IT 9002-89-5DP, Gohsenol NL-05, mixed acetal derivs., esterified with dicarboxylic anhydride

RL: IMF (Industrial manufacture); MOA (Modifier or additive use);  
POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable resin compns. with good curability and film forming properties)

L81 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:210734 HCAPLUS

DOCUMENT NUMBER: 126:200422

ORIGINAL REFERENCE NO.: 126:38737a,38740a

TITLE: Continuous manufacture of PVA-type sponge

INVENTOR(S): Uehara, Tsutomu; Kotani, Yoshiji; Sato, Takaya

PATENT ASSIGNEE(S): Nisshin Spinning, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09012763	A	19970114	JP 1995-189875	19950703
JP 3511274	B2	20040329	JP 1995-189875	19950703

PRIORITY APPLN. INFO.: JP 1995-189875

AB Title process comprises mixing PVA aqueous solns., pore-forming agents, crosslinking agents, and reactive catalysts, molding, heating for crosslinking, and washing for removal of the pore-foaming agents. Thus, a 10%-PVA solution 3000, PVA fiber 30, Sumitex M 3 90, Sumitex ACX 30, and Na<sub>2</sub>SO<sub>4</sub>.10H<sub>2</sub>O 6000 g were mixed, kneaded at 5°, molded at 98° for 30 min, and washed to give a sponge with good processability.

IC ICM C08J009-26  
 ICS C08J009-26; C08L029-02

CC 38-2 (Plastics Fabrication and Uses)

ST PVA sponge pore forming agent; crystal sodium sulfate  
 PVA sponge molding; polyvinyl acetal  
 sponge crosslinking agent

IT Crosslinking catalysts  
 Sponges (artificial)  
 (continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT Polyvinyl acetals  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT Aminoplasts  
 RL: CAT (Catalyst use); USES (Uses)  
 (crosslinking agents; continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT Polyvinyl acetals  
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (formals; continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT 50-00-0, Formaldehyde, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (acetalization agents; continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT 9003-20-7DP, PVA, acetalized  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (continuous manufacture of PVA-type sponge using pore-foaming and crosslinking agents)

IT 9003-08-1, Sumitex M 3  
 RL: CAT (Catalyst use); USES (Uses)  
 (crosslinking agents; continuous manufacture of PVA-type  
 sponge using pore-foaming and crosslinking agents)

IT 58056-74-9, Sumitex ACX  
 RL: CAT (Catalyst use); USES (Uses)  
 (crosslinking catalysts; continuous manufacture of PVA-type  
 sponge using pore-foaming and crosslinking agents)

IT 7757-82-6, Sodium sulfate, uses  
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or  
 chemical process); TEM (Technical or engineered material use); PROC  
 (Process); USES (Uses)  
 (pore-forming agents; continuous manufacture of PVA-type  
 sponge using pore-foaming and crosslinking agents)

L81 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1983:527300 HCAPLUS  
 DOCUMENT NUMBER: 99:127300  
 ORIGINAL REFERENCE NO.: 99:19531a,19534a  
 TITLE: Porous ceramics  
 PATENT ASSIGNEE(S): Kanebo, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58064255	A	19830416	JP 1981-161702	198110 08
JP 63019476	B	19880422	JP 1981-161702	198110 08

PRIORITY APPLN. INFO.: JP 1981-161702

AB Porous ceramics are made by mixing fine ceramic materials with polyvinyl alc.), reacting in the presence of a crosslinking agent to make ceramic-polyvinyl acetal type synthetic resin porous bodies, and firing in an oxidizing atmospheric Thus, poly(vinyl alc.) was mixed with water, heated to 60°, mixed with a starch dispersion, heated, mixed with formalin, H<sub>2</sub>SO<sub>4</sub>, and water, and the mixture was mixed with a ceramic powder containing SiO<sub>2</sub> 9, Mg(OH)<sub>2</sub> 21, Al(OH)<sub>3</sub> 5, kaolin 28, and grog 37 parts, molded, heated, washed, and fired at 1520° for 24 h to give a porous ceramic having porosity consisting of continuous pores 88%. It can be used for dust, mist, and oil separation and as filter.

IC C04B021-06  
 CC 57-2 (Ceramics)

L81 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1980:111927 HCAPLUS  
 DOCUMENT NUMBER: 92:111927  
 ORIGINAL REFERENCE NO.: 92:18271a,18274a  
 TITLE: Semipermeable membranes  
 INVENTOR(S): Kamiyoshi, Kazuhiko; Takeda, Noryuki; Maita,

PATENT ASSIGNEE(S): Hitoshi  
 SOURCE: Sekisui Chemical Co. Ltd., Japan  
 Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
JP 54139887	A	19791030	JP 1978-48067	197804 21
			JP 1978-48067	A 197804 21

PRIORITY APPLN. INFO.:

AB Semipermeable membranes are prepared from crosslinked polyvinyl acetals. Thus, 0.5% aqueous poly(vinyl alc  
 .) (d.p. 1500) acetal with Me<sub>2</sub>NCH<sub>2</sub>CHO is cast, dried at 50° for 24 h to an 8.9-μ membrane, and crosslinked with glyoxal [107-22-2] vapor for 30 min to give a semipermeable membrane with salt rejection (0.5% aqueous NaCl, 40 kg/cm<sup>2</sup>) 70.3% and water permeation 0.95 ton/m<sup>2</sup>-h.

IC B01D013-04

CC 37-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 61

ST polyvinyl acetal membrane semipermeable; glyoxal crosslinker polyvinyl acetal; crosslinking polyvinyl acetal membrane; desalination membrane semipermeable; dimethylaminoacetaldehyde polyvinyl acetal

IT 107-22-2  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agents, for polyvinyl acetal semipermeable membranes)

IT 52334-92-6D, acetal with poly(vinyl alc  
 .)  
 RL: USES (Uses)  
 (membranes, crosslinking of semipermeable)

=&gt;



FILE 'HCAPLUS' ENTERED AT 15:32:32 ON 14 JUL 2008  
L78 6 S L70 NOT L71-75

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L78 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:97926 HCAPLUS  
DOCUMENT NUMBER: 142:207649  
TITLE: Ink-jet printing paper and its manufacture  
INVENTOR(S): Kaneko, Manabu; Tsubaki, Yoshinori  
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005028747	A	20050203	JP 2003-196377	20030714
PRIORITY APPLN. INFO.: JP 2003-196377				20030714

AB In the paper having porous layers containing ionizing radiation-crosslinkable hydrophilic polymers and inorg. fine particles on supports, the hydrophilic polymers are crosslinked with crosslinking agents. The paper is manufactured by applying solns. containing the hydrophilic polymers, the inorg. fine particles, and the crosslinking agents on the supports and drying. The paper may be manufactured by applying solns. containing the hydrophilic polymers and the inorg. fine particles on supports, applying the crosslinking agents on the resulting porous layers, and drying. The paper shows good ink absorbability, surface smoothness, crack resistance, and high gloss.

IT 107-22-2, Glyoxal  
RL: RCT (Reactant); TEM (Technical or engineered material use);  
RACT (Reactant or reagent); USES (Uses)  
(crosslinking agents; manufacture of ink-jet printing paper having hydrophilic polymer porous layers with good ink absorbability)

RN 107-22-2 HCAPLUS  
CN Ethanedial (CA INDEX NAME)

O=CH-CH=O

IC ICM B41M005-00  
ICS B41J002-01

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Polyvinyl acetals  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(crosslinked; manufacture of ink-jet printing paper having hydrophilic

polymer porous layers with good ink absorbability)  
 IT 107-22-2, Glyoxal 822-06-0, Hexamethylene diisocyanate  
 2224-15-9, Ethylene glycol diglycidyl ether 10043-35-3, Boric  
 acid, reactions 15791-08-9 26750-50-5, Bisvinylsulfonylmethyl  
 ether  
 RL: RCT (Reactant); TEM (Technical or engineered material use);  
 RACT (Reactant or reagent); USES (Uses)  
 (crosslinking agents; manufacture of ink-jet  
 printing paper having hydrophilic polymer porous layers with good  
 ink absorbability)

L78 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:587942 HCAPLUS

DOCUMENT NUMBER: 141:124156

TITLE: Crosslinking of poly(vinyl  
acetals)

INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler,  
Matthias

PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany

SOURCE: Ger. Offen., 12 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

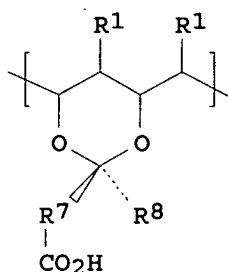
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 10319201	A1	20040722	DE 2003-10319201	200304 29
WO 2004063231	A1	20040729	WO 2003-EP14109	200312 12
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003294838	A1	20040810	AU 2003-294838	200312 12
BR 2003017977	A	20051206	BR 2003-17977	200312 12
EP 1622946	A1	20060208	EP 2003-785800	200312 12
CN 1759125	A	20060412	CN 2003-80110133	200312 12
JP 2006513284	T	20060420	JP 2004-565965	200312 12

US 20060052533	A1	20060309	US 2005-542019	200312 12
PRIORITY APPLN. INFO.:			DE 2003-10300321	200507 11
			DE 2003-10319201	200301 09
			WO 2003-EP14109	200304 29
				200312 12

GI



AB The poly(vinyl acetals) are crosslinked by reacting a polymer containing structural units (1) CHOCH<sub>2</sub>CHR<sub>1</sub> (R<sub>1</sub> = H, Me) and optionally structural units (2) CHO<sub>2</sub>CR<sub>2</sub>CH<sub>2</sub>CHR<sub>1</sub> (R<sub>2</sub> = H, C<sub>1</sub>-6 alkyl), (3) CR<sub>5</sub>R<sub>6</sub>CR<sub>3</sub>R<sub>4</sub> (R<sub>3</sub>-R<sub>6</sub> = residues with mol. weight 1-500 g/mol) and acetal units I [R<sub>7</sub> = bond, C<sub>1</sub>-10 alkylene, (un)substituted C<sub>6</sub>-12 arylene; R<sub>8</sub> = H, CO<sub>2</sub>H, C<sub>1</sub>-10 alkyl, (un)substituted C<sub>6</sub>-12 aryl] with a polyaldehyde R<sub>9</sub>(CHO)<sub>n</sub> (R<sub>9</sub> = C<sub>1</sub>-40 residue; n ≥ 2), e.g., pentanediol or nonanediol, and with esterification of structural units (1) with structural units I. The crosslinked poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

IT 111-30-8, Glutardialdehyde 51651-40-2,  
1,9-Nonanediol

RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking agent; crosslinking  
of poly(vinyl acetals) with  
polyaldehydes)

RN 111-30-8 HCAPLUS

CN Pentanediol (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>3</sub>-CHO

RN 51651-40-2 HCAPLUS  
CN Nonanedial (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>7</sub>-CHO

IC ICM C08F008-28  
ICS C08F008-14; C08F016-00  
CC 35-8 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 38, 74, 76  
ST **polyvinyl acetal** crosslinking polyaldehyde;  
dialdehyde crosslinking agent **polyvinyl acetal**  
IT Windshields  
(automotive; crosslinking of **poly(vinyl acetals)** with polyaldehydes)  
IT Coating materials  
Crosslinking  
Plastic films  
(crosslinking of **poly(vinyl acetals)** with polyaldehydes)  
IT **Polyvinyl acetals**  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking of **poly(vinyl acetals)** with polyaldehydes)  
IT Safety glass  
RL: TEM (Technical or engineered material use); USES (Uses)  
(laminated safety glass; crosslinking of **poly(vinyl acetals)** with polyaldehydes)  
IT Crosslinking agents  
(polyaldehydes; crosslinking of **poly(vinyl acetals)** with)  
IT Aldehydes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(polyfunctional, crosslinking agents; crosslinking of **poly(vinyl acetals)** with)  
IT Laminated glass  
RL: TEM (Technical or engineered material use); USES (Uses)  
(safety glass; crosslinking of **poly(vinyl acetals)** with polyaldehydes)  
IT 111-30-8, Glutardialdehyde 51651-40-2,  
1,9-Nonanedial  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking agent; crosslinking of **poly(vinyl acetals)** with polyaldehydes)

L78 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:587941 HCAPLUS  
DOCUMENT NUMBER: 141:124155  
TITLE: Crosslinking of **poly(vinyl acetals)**  
INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler, Matthias  
PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany  
SOURCE: Ger. Offen., 9 pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10319199	A1	20040722	DE 2003-10319199	20030429
WO 2004063232	A1	20040729	WO 2003-EP14110	20031212
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003293853	A1	20040810	AU 2003-293853	20031212
EP 1606325	A1	20051221	EP 2003-789238	20031212
EP 1606325	B1	20080305		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006513285	T	20060420	JP 2004-565966	20031212
AT 388170	T	20080315	AT 2003-789238	20031212
US 20060205871	A1	20060914	US 2005-542022	20051230
PRIORITY APPLN. INFO.:			DE 2003-10300320	IA 20030109
			DE 2003-10319199	A 20030429
			WO 2003-EP14110	W 20031212

AB The poly(vinyl acetals) are crosslinked by reacting a polymer containing structural units (1) CHOHCHR1 (R1 = H, Me) and optionally structural units (2) CHO2CR2CHR1 (R2 = H, C1-6 alkyl), (3) CR5R6CR3R4 (R3-R6 = residues with mol. weight 1-500 g/mol) and (4) CHR7CR8CO2H [R7, R8 = H,

carboxyl, C1-10 (carboxy-substituted) alkyl, (un)substituted C6-12 aryl] with a polyaldehyde  $R_9(CHO)_n$  ( $R_9$  = C1-40 residue;  $n \geq 2$ ), e.g., pentanediol or nonanediol, and with esterification of structural units (1) with structural units (4). The crosslinked poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

IT 111-30-8, Glutardialdehyde 51651-40-2,  
1,9-Nonanediol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking agent; crosslinking  
of poly(vinyl acetals) with  
polyaldehydes)  
RN 111-30-8 HCAPLUS  
CN Pentanediol (CA INDEX NAME)

OHC- $(CH_2)_3$ -CHO

RN 51651-40-2 HCAPLUS  
CN Nonanediol (CA INDEX NAME)

OHC- $(CH_2)_7$ -CHO

IC ICM C08F008-28  
ICS C08F008-14; C08F016-00  
CC 35-8 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 38, 74, 76  
ST polyvinyl acetal crosslinking polyaldehyde;  
dialdehyde crosslinking agent polyvinyl acetal  
IT Windshields  
(automotive; crosslinking of poly(vinyl  
acetals) with polyaldehydes)  
IT Polyvinyl acetals  
RL: TEM (Technical or engineered material use); USES (Uses)  
(crosslinked; crosslinking of poly(vinyl  
acetals) with polyaldehydes)  
IT Coating materials  
Crosslinking  
Plastic films  
(crosslinking of poly(vinyl acetals  
) with polyaldehydes)  
IT Safety glass  
RL: TEM (Technical or engineered material use); USES (Uses)  
(laminated safety glass; crosslinking of poly(  
vinyl acetals) with polyaldehydes)  
IT Crosslinking agents  
(polyaldehydes; crosslinking of poly(vinyl  
acetals) with)  
IT Aldehydes, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(polyfunctional, crosslinking agents; crosslinking of  
poly(vinyl acetals) with)  
IT Laminated glass  
RL: TEM (Technical or engineered material use); USES (Uses)  
(safety glass; crosslinking of poly(vinyl

acetals) with polyaldehydes)  
IT 111-30-8, Glutardialdehyde 51651-40-2,  
1,9-Nonanedial  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking agent; crosslinking  
of poly(vinyl acetals) with  
polyaldehydes)

L78 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:574566 HCAPLUS  
DOCUMENT NUMBER: 142:280991  
TITLE: Study of the preparation of PVA composite  
nanofiltration membrane  
AUTHOR(S): Bian, Xiaokai; Shi, Liuqing; Liang, Guoming; Lu,  
Xiaofeng  
CORPORATE SOURCE: Shanghai Institute of Nuclear Research, Chinese  
Academy of Science, Shanghai, 201800, Peop. Rep.  
China  
SOURCE: Mo Kexue Yu Jishu (2004), 24(2), 12-14, 22  
CODEN: MKYJEF; ISSN: 0254-6140  
PUBLISHER: Mo Kexue Yu Jishu Bianjibu  
DOCUMENT TYPE: Journal  
LANGUAGE: Chinese

AB The composite nanofiltration is prepared by coating hydrophilic  
polyvinyl alc. (PVA) on the base membrane. The effects of the  
properties of base membrane, the concentration of PVA and crosslinking  
solution, and the thickness of the surface layer, etc. on the membrane  
performance are investigated. The results showed that PVA composite  
membrane could be formed by coating 5% PVA solution and 1%  
glutaraldehyde solution on the base membrane with cut-off mol. weight  
100,000.

IT 111-30-8, Glutaraldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking agent; preparation of polyvinyl  
alc.-coated nanofiltration membrane)

RN 111-30-8 HCAPLUS  
CN Pentanedial (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>3</sub>-CHO

CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37

IT Polyvinyl acetals  
RL: PRP (Properties); TEM (Technical or engineered material use);  
USES (Uses)  
(glutarals; preparation of polyvinyl alc.-coated nanofiltration  
membrane)

IT 111-30-8, Glutaraldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(crosslinking agent; preparation of polyvinyl  
alc.-coated nanofiltration membrane)

L78 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2001:551864 HCAPLUS  
DOCUMENT NUMBER: 135:123355  
TITLE: Odorless and nontoxic cyclic acetal derivatives  
for crosslinking agents  
INVENTOR(S): Ando, Yoshinori

PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001206882	A	20010731	JP 2000-17322	

200001  
26

PRIORITY APPLN. INFO.: JP 2000-17322

200001  
26

OTHER SOURCE(S): MARPAT 135:123355  
AB Cyclic acetals were prepared from aliphatic dialdehydes and triols in the presence of acids. Thus, a compatible crosslinking agent for ethylene-vinyl alc. copolymer was prepared from 1,9-nonanedial and glycerin.  
IT 45037-67-0, 1,10-Decanedial 51651-40-2, 1,9-Nonanedial  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(odorless and nontoxic cyclic acetal derivs. for crosslinking agents)  
RN 45037-67-0 HCAPLUS  
CN Decanedial (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>8</sub>-CHO

RN 51651-40-2 HCAPLUS  
CN Nonanedial (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>7</sub>-CHO

IC ICM C07D317-20  
ICS C07D319-06; C07D321-06; C07D407-06  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 28  
IT Polyvinyl acetals  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(odorless and nontoxic cyclic acetal derivs. for crosslinking agents)  
IT 56-81-5, Glycerin, reactions 4704-94-3, 2-Hydroxymethyl-1,3-propanediol 30157-60-9, 2-Methyl-1,8-octanedial 45037-67-0, 1,10-Decanedial 51651-40-2, 1,9-Nonanedial  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(odorless and nontoxic cyclic acetal derivs. for crosslinking agents)

L78 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1998:210644 HCAPLUS  
DOCUMENT NUMBER: 128:271776



ORIGINAL REFERENCE NO.: 128:53777a,53780a  
 TITLE: Coated plastic moldings with allergy prevention  
 INVENTOR(S): Seki, Michiko; Abe, Osamu; Nishiyama, Shigeru  
 PATENT ASSIGNEE(S): Nikon Corp., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10087862	A	19980407	JP 1996-245198	199609 17
PRIORITY APPLN. INFO.: JP 1996-245198				199609 17

AB Title moldings (e.g., eyeglass frames or hearing aids) have polyvinyl acetal-based human skin-contacting portions. A PMMA plate was soaked in a solution containing S-Lec BM 5, MeSi(OMe)<sub>3</sub>, glutaraldehyde, and p-toluenesulfonic acid and heated at 90° for 30 min to form a plate showing good allergy prevention after contacting with human skin over 48 h.

IT 111-30-8, Glutaraldehyde  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (crosslinker for polyvinyl butyral coatings; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)

RN 111-30-8 HCAPLUS

CN Pentanedial (CA INDEX NAME)

OHC-(CH<sub>2</sub>)<sub>3</sub>-CHO

IC ICM C08J007-04

CC 42-10 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 38, 63

IT Polyvinyl butyrals

RL: TEM (Technical or engineered material use); USES (Uses)  
 (S-Lec BM 5; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)

IT Eyeglasses

(frames; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)

IT Acrylic polymers, miscellaneous

Molded plastics, miscellaneous

RL: MSC (Miscellaneous)

(moldings; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)

IT Allergy

(prevention; plastic moldings coated with polyvinyl acetal-based coatings for allergy prevention)

IT 111-30-8, Glutaraldehyde 1185-55-3, Methyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(crosslinker for polyvinyl butyral coatings; plastic

moldings coated with **polyvinyl acetal**-based  
coatings for allergy prevention)  
IT 9011-14-7, PMMA  
RL: MSC (Miscellaneous)  
(moldings; plastic moldings coated with **polyvinyl**  
**acetal**-based coatings for allergy prevention)

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